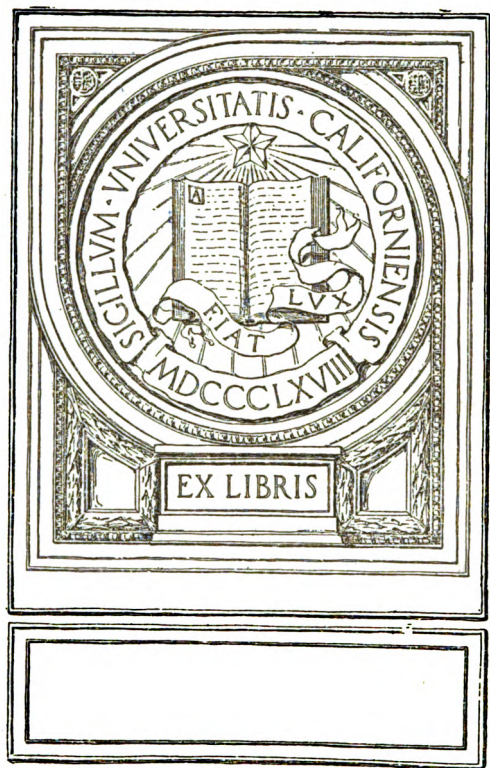

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PEACE HANDBOOKS

Issued by the Historical Section
of the Foreign Office

VOL. XXI

NORTH, CENTRAL AND SOUTH AMERICA: ATLANTIC ISLANDS.

131. ST. PIERRE AND MIQUELON

132. GREENLAND

133. BRITISH HONDURAS

134. THE GUIANAS (GENERAL)

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138. { FALKLAND ISLANDS

{ KERGUELEN ISLAND

LONDON:
H.M. STATIONERY OFFICE

1920

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AUGUST 1940

Editorial Note.

IN the spring of 1917 the Foreign Office, in connection with the preparation which they were making for the work of the Peace Conference, established a special section whose duty it should be to provide the British Delegates to the Peace Conference with information in the most convenient form—geographical, economic, historical, social, religious and political—respecting the different countries, districts, islands, &c., with which they might have to deal. In addition, volumes were prepared on certain general subjects, mostly of an historical nature, concerning which it appeared that a special study would be useful.

The historical information was compiled by trained writers on historical subjects, who (in most cases) gave their services without any remuneration. For the geographical sections valuable assistance was given by the Intelligence Division (Naval Staff) of the Admiralty; and for the economic sections, by the War Trade Intelligence Department, which had been established by the Foreign Office. Of the maps accompanying the series, some were prepared by the above-mentioned department of the Admiralty, but the bulk of them were the work of the Geographical Section of the General Staff (Military Intelligence Division) of the War Office.

Now that the Conference has nearly completed its task, the Foreign Office, in response to numerous enquiries and requests, has decided to issue the books for public use, believing that they will be useful to students of history, politics, economics and foreign affairs, to publicists generally and to business men and travellers. It is hardly necessary to say that some of the subjects dealt with in the series have not in fact come under discussion at the Peace Conference; but, as the books treating of them contain valuable information, it has been thought advisable to include them.

It must be understood that, although the series of volumes was prepared under the authority, and is now issued with the sanction, of the Foreign Office, that Office is not to be regarded as guaranteeing the accuracy of every statement which they contain or as identifying itself with all the opinions expressed in the several volumes; the books were not prepared in the Foreign Office itself, but are in the nature of information provided for the Foreign Office and the British Delegation.

The books are now published, with a few exceptions, substantially as they were issued for the use of the Delegates. No attempt has been made to bring them up to date, for, in the first place, such a process would have entailed a great loss of time and a prohibitive expense; and, in the second, the political and other conditions of a great part of Europe and of the Nearer and Middle East are still unsettled and in such a state of flux that any attempt to describe them would have been incorrect or misleading. The books are therefore to be taken as describing, in general, *ante-bellum* conditions, though in a few cases, where it seemed specially desirable, the account has been brought down to a later date.

G. W. PROTHERO,

General Editor and formerly

Director of the Historical Section.

January 1920.

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**SAINT-PIERRE
AND
MIQUELON**

**LONDON :
PUBLISHED BY H.M. STATIONERY OFFICE.**

1920

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I. GEOGRAPHY PHYSICAL AND POLITICAL

(1) POSITION

THE colony of Saint-Pierre and Miquelon, which is all that remains to France of her once great empire in North America, consists of several small islands. Of these Grande Miquelon and Petite Miquelon (or Langlade), which are really one island, Saint-Pierre, and the adjacent Île aux Chiens (Chien Island) are the only ones inhabited and of economic value. The others are uninhabited rocks.

The group lies about ten miles west and south-west of Crew Point on the south coast of Newfoundland. Tête de Galantry, the easternmost point of Saint-Pierre, is situated in $46^{\circ} 46'$ north latitude, $56^{\circ} 8'$ west longitude. The total area of the colony is about 96 square miles.

(2) SURFACE, COASTS, AND RIVERS

Surface

Miquelon is the largest of the islands. Originally it was two separate islands, but since 1783 they have been joined together by a shingle bank. Grande Miquelon, including the isthmus, has an area of 48 square miles, Petite Miquelon an area of 35 ; the former is about 9 miles long and 5 broad, the latter about 7 miles long and 5 or 6 broad. The isthmus between the two is $5\frac{1}{2}$ miles long ; at its narrowest point it is less than a quarter of a mile wide. Saint-Pierre, divided from Miquelon by a channel 3 miles wide called La Baie,

has an area of about 10 square miles. It is 5 miles long and $3\frac{1}{2}$ miles broad. The Île aux Chiens is less than 1 mile long, and is about a quarter of a mile broad.

The islands consist chiefly of siliceous porphyry, but in origin seem to differ, Miquelon apparently being the result of one upheaval, and Saint-Pierre of a succession of seismic convulsions. The general appearance of the islands also varies. The tops of the hills on Miquelon are long and flat, while in Saint-Pierre the outline is more irregular; the highest summits (700–800 ft.) are in Grande Miquelon.

All the islands present a bare and rocky appearance, a thin surface of peat covering the rock in many parts, while the valleys are filled with lakes or peat mosses. Boulders are scattered about everywhere. In general the lines of the hills run north-east and south-west, as in Newfoundland.

Coasts

The coasts are generally steep and high, except on the north-east side of Petite Miquelon. The navigation of these waters is difficult, and landing is often dangerous. Saint-Pierre has the one really good harbour.

Rivers and Lakes

There are no rivers of any size; the chief is Belle Rivière, which flows out on the north-east shore of Petite Miquelon. There are several lakes on the islands; they are most numerous in the north part of Grande Miquelon.

(3) CLIMATE

The islands are on the latitude of the Loire Valley in France, but have the temperature of the Faroe Islands, 15 degrees farther north. The severity of the

climate is due more to Polar currents and winds than to geographical position. The mean annual temperature is about 40° F. (4° C.). The heat of summer rarely rises above 72° F. (22° C.). On the other hand, the winter is long rather than rigorous. It is quite exceptional for the temperature to fall to 4° F. (— 15° C.); as a rule, the lowest temperature varies from 7° F. to 6° F. (about — 14° C.). The variations in summer are slight; in winter it is quite common for the temperature to rise in the course of a day from 7° F. (— 14° C.) to 38° F. (3° C.). The annual rainfall is from 40 to 47 in. (101 to 119 cm.). Rain falls between April and November; in November snow begins, and remains permanently on the ground till April, the heaviest falls being in December and January. At times the Île aux Chiens is joined by ice to Saint-Pierre, but the harbour of Saint-Pierre has not been blocked since 1874. In February and March navigation round the islands is hindered by field ice. But the winter is very tolerable, as the coldest weather generally coincides with blue sky and absence of wind. The chief discomfort is experienced when there is a *poudrin*; this name is given to a wind from the north or north-east, charged with frozen particles, which penetrate the smallest fissures and make their way even into the interior of the houses, while life in the open air is unbearable. The wind is very irregular, often making the round of the compass in a single day. South and south-west winds are frequent in summer; they are hot and damp; the south-east wind is sometimes stormy, but all three are constantly accompanied by fog, which lasts many days together if the wind is light, the worst months being June and July, the best August and September. On an average there are 160 days of fog in the year. In the autumn and winter north and north-west winds are frequent.

(4) SANITARY CONDITIONS

The death-rate is 25 per 1,000 ; longevity is greater than in France, and there are no endemic complaints peculiar to the country. Rheumatism is common, but the dry frosty weather is suitable to consumptive patients. Other circumstances, such as the unsatisfactory food (consisting preponderantly of cod) and the ill-ventilated and sometimes insanitary dwellings, discount the advantages of the climate. Tuberculosis is said to account for one-tenth of the deaths.

There is a hospital with sixty beds at Saint-Pierre.

The Naval Squadron of the French Antilles comes to Saint-Pierre to recruit, taking refuge there from summer heat and tropical fevers.

(5) RACE AND LANGUAGE

Saint-Pierre and Miquelon is the only colony of France inhabited by a population almost exclusively of French race. The only notable addition is the presence of about 320 people of British origin, chiefly from Newfoundland. The French tongue is universally employed in the islands.

(6) POPULATION

In 1911 the population was 4,209, of whom 3,403 lived in Saint-Pierre, 443 in Miquelon, and 363 in the Ile aux Chiens. Of this total 1,382 were males over 14 ; of these 123 held official positions and 757 were fishermen. The population is mostly concentrated in and near the town of Saint-Pierre.

For many years the population of these islands was growing :

1848	.	.	.	.	2,130
1884	.	.	.	.	5,765
1888	.	.	.	.	5,929
1897	.	.	.	.	6,352
1902	.	.	.	.	6,482

Since 1902 it has fallen rapidly, and is still declining, despite the fact that families are usually large and that the death-rate compares favourably with that of France. Various causes have led to this decrease. There is a tendency to emigrate to the United States and Canada, and the young men are said to show less inclination than formerly to deep-sea fishing. Further checks on the growth of the population are the hardness of the life of the inhabitants and the number of disasters at sea.

Towns and Villages.—*Saint-Pierre* occupies an area of 207 acres. It is built in wide streets, owing to fear of fire, from which the town suffered badly in 1865, 1867, and 1879. Most of the houses are of wood, and consist of one story. The chief buildings are the church, court-house, Governor's residence, and communal schools. There are no pavements or footways, but in other respects the town is up-to-date, having electric lighting, telephones, and a good water-supply. A new quarter is growing up to the north of the town.

The town of *Miquelon* is rapidly decaying and losing importance. The only other settlements are one on Langlade and one on the Île aux Chiens.

II. POLITICAL HISTORY

CHRONOLOGICAL SUMMARY

- 1534-6. Jacques Cartier's voyages.
- 1650 (c.). Permanent French occupation.
- 1702. Islands captured by British Fleet.
- 1713. Treaty of Utrecht.
- 1763. Islands ceded in full right to France.
- 1778. Seized by British Fleet.
- 1783. Retroceded to France.
- 1793. Retaken by Great Britain.
- 1814. Finally restored.
- 1857. Convention as to French Fishing Rights in Newfoundland.
- 1884-5. Abortive negotiations for a Bait Convention.
- 1887. Bait Act. 1888 : comes into operation.
- 1904. Convention as to Bait.

(1) *Introductory—Early History*

BRITISH and French sailors began to frequent North American waters about the same time, in the early years of the sixteenth century. Jacques Cartier of St. Malo sailed up the St. Lawrence between 1534 and 1536, and some attempts were made at colonization. In 1608 Champlain founded La Nouvelle France or Canada. Newfoundland had been visited in 1583 by Sir Humphrey Gilbert, who hoisted the English flag there and was drowned on the way home. In early days French fishers were as active as British in Newfoundland waters, but there was no French colonization of Newfoundland prior to 1662, when Placentia was occupied, the first permanent British settlement in the island being half a century earlier. The islands of Saint-Pierre and Miquelon were subordinate to Placentia. They were captured by the British Fleet in 1702, and remained in British hands along with Newfoundland after the Treaty of Utrecht.

(2) *The Treaties, 1713-1814*

By Article XIII of the Treaty of Utrecht, 1713, the right was accorded to the subjects of France

to catch fish, and to dry them on land, in that part only, and in no other besides that, of the said island of Newfoundland, which stretches from the place called Cape Bonavista, to the northern point of the said island, and from thence running down by the western side, reaches as far as the place called Point Riche.

The coast so defined was henceforward known as the Treaty Shore. France renounced all other claims to Newfoundland and the adjacent islands, which were to be wholly British, but retained Cape Breton and the islands in the mouth and the Gulf of the St. Lawrence.

By Article V of the Treaty of Paris, 1763, the French fishery rights were reaffirmed as regards Newfoundland; and, as Cape Breton and the islands in the mouth and Gulf of the St. Lawrence were now ceded to Britain, provision was made that the French might fish in the Gulf, but not within a distance of three leagues from the coasts possessed by Great Britain, whether the coasts of the continent or the islands in the Gulf, and in the case of Cape Breton their fishing was forbidden within fifteen leagues of the coast. By Article VI of the treaty

The King of Great Britain cedes the islands of Saint-Pierre and Miquelon in full right to His Most Christian Majesty to serve as a shelter to the French fishermen, and his said Most Christian Majesty engages not to fortify the said islands, to erect no buildings upon them but merely for the convenience of the fishery, and to keep upon them a guard of fifty men only for the police.

When, in 1778, France joined the revolted American Colonies, Saint-Pierre and Miquelon were retaken by the British Fleet; but they were retroceded at the peace. By Article IV of the Treaty of Versailles, 1783,

His Majesty the King of Great Britain is maintained in his right to the island of Newfoundland and to the adjacent

islands as the whole were assured to him by the 13th article of the Treaty of Utrecht, excepting the islands of Saint-Pierre and Miquelon, which are ceded in full right by the present treaty to His Most Christian Majesty.

Article V provided for the alteration of the limits of the French rights of fishery and drying fish on the shores of Newfoundland so that they should run from Cape St. John on the east by the north to Cape Ray on the west coast, thus giving to France rights on the whole of the west coast of the colony, and on a considerable portion of the east coast. Article VI placed the fishing in the Gulf of the St. Lawrence on the basis of the treaty of 1763.

At the same time, by declarations of September 3, 1783, more precise definitions were made of the mode of fishery to be exercised by the French. His Britannic Majesty agreed to

take the most positive measures for preventing his subjects interrupting in any manner by their competition the fishery of the French during the temporary exercise of it which is granted to them upon the coast of the island of Newfoundland, and he will for this purpose cause the fixed settlements ¹ which shall be formed there to be removed.

On the other hand, the French fishermen were to adhere strictly to the recognized mode of carrying on the fishery,

building only their scaffolds, confining themselves to the repair of their fishing vessels, and not wintering there, the subjects of His Britannic Majesty on their part not molesting in any manner the French fishermen during their fishing nor injuring their scaffolds during their absence.

With regard to Saint-Pierre and Miquelon the following declarations were exchanged :

The King of Great Britain, in ceding the islands of Saint-Pierre and Miquelon to France, regards them as ceded for the purpose of serving as a real shelter to the French fishermen and in full confidence that these possessions will not become an object of jealousy between the two nations and that the fishery between the said islands and the island of Newfoundland shall be limited to the middle of the channel.

¹ *Établissements sédentaires.*

The French declaration stated :

The King of Great Britain undoubtedly places too much confidence in the uprightness of His Majesty's intentions not to rely upon his constant attention to prevent the islands of Saint-Pierre and Miquelon from becoming an object of jealousy between the two nations ;

and

In regard to the fishery between the Island of Newfoundland and those of Saint-Pierre and Miquelon it is not to be carried on by either party but to the middle of the channel, and His Majesty will give the most positive orders that the French fishermen shall not go beyond this line. His Majesty is firmly persuaded that the King of Great Britain will give like orders to the English fishermen.¹

When the French Revolutionary War broke out (1793), the islands were retaken by Great Britain. Restored in 1802, by the Treaty of Amiens, they passed next year for the fourth time into British possession, but were finally returned to France in 1814. The provisions of the treaty of 1783 and of the declarations are still valid by virtue of Articles VIII and XIII of the Treaty of Paris (1814), and Article XI of the Treaty of Paris (1815), which restored to France the fishery as it existed in 1792. When the colony reverted to France by the Peace of Paris in 1763, it was largely peopled by expatriated French from Nova Scotia ; but, on its reconquest by England in the war of the French Revolution, the French inhabitants were deported to France. On the restoration of the islands to the French in 1814, there came back 150 old families, numbering 645 individuals. In the same year St. Malo sent 4,600 fishermen to the Great Bank ; and in later days, during the fishing season (April to October), as many as 10,000 fishermen came from France, mostly Bretons and Normans, but also a certain number of Flemings from Dunkirk, and a diminishing number from the Basque ports of the Bay of Biscay.

¹ These extracts from treaties are taken from the translations of the French originals in the Foreign Office Collection of State Papers.

The net effect of the treaties is clearly that the possession by France of Saint-Pierre and Miquelon is essentially for the purpose of the fisheries used by French fishermen; and that the sovereignty enjoyed by France does not extend to the right to cede the islands to any other Power, or to turn them into a fortified base so as to convert them into an object of jealousy between the two Powers. No steps to fortify the islands or to cede them have been taken by any French government. The restriction on French and British fishermen respectively fishing beyond the middle of the channel between Newfoundland and the islands, and the restrictions regarding the French fishing within fifteen leagues of the coast of Cape Breton and three leagues of the coast of the continent and the islands in the Gulf of St. Lawrence are still valid, but do not seem, at any rate of recent years, to have been actively enforced; whether because they are not violated in practice or because they are not considered to be of importance does not appear. On the other hand, the French fishery rights in Newfoundland have been greatly modified by the convention of April 8, 1904.¹ The fishermen are now restricted to the right to fish (but only on a footing of equality with British subjects) in the territorial waters of Newfoundland within the limits from Cape St. John to Cape Ray. The right to dry fish on shore is abandoned; and they are only at liberty to enter any port or harbour to obtain shelter, or bait, or supplies, on the same conditions as the inhabitants of Newfoundland. They may take bait or shell-fish, but they are subject to local regulations for the improvement of the fishery.

(3) *Saint-Pierre and the Fisheries*

The purpose for which the cession of Saint-Pierre and Miquelon was valued by the French Government was their utility as a base for carrying on the fishery on the Grand Banks and the Newfoundland coast. Accordingly, for many years Saint-Pierre enjoyed a con-

¹ Cd. 1,952, pp. 20, 21.

siderable measure of prosperity as the head-quarters of an important fishing fleet of some 200 vessels, which were kept in the islands and fitted out annually for the fisheries. The crews of these vessels were in large measure provided by the local population, which grew in size and became resident instead of returning to France. The fish caught by the fleet were dried on the islands or in Newfoundland and exported in that condition to France. At the same time the islands, by their large imports (chiefly from France) for the needs of the fishing population, offered advantages as a place of call for British vessels, being more convenient of access and offering a greater variety of supplies than the nearest Newfoundland ports, and possessing a good harbour at Saint-Pierre.

(4) *The Bait Act*

The importance attached by the French fishermen to the bait question showed itself in the negotiations which, begun in 1856, resulted in the conclusion of a Convention in 1857 for the settlement of the difficulties regarding the French fishery rights in Newfoundland. These had become an increasing inconvenience to Newfoundland, with the gradual transformation of what had been regarded for a long time as a mere fishery station, on which permanent settlement was undesirable, into a settled colony with a resident and increasing population. Part of the French demand then was for the right to purchase bait freely on the south coast of Newfoundland; and, in the event of the failure for two seasons of supplies by purchase, the right to fish themselves for bait on a portion of the south coast.¹

¹It is to be noted that the fishery rights enjoyed by the French were not the only cause of the complaints urged by Newfoundland, which had received rights of self-government in 1855, having then a population of over 100,000. The back-country along the Treaty Shore was found to be the richest part of the island in timber and minerals; and the rights of the French fishermen hindered its free economic development.

The Convention of 1857 was rejected by the Government of Newfoundland on account of this clause, and for other reasons ; but in 1867, and again by a formal resolution of both Houses of the Legislature of April 23, 1874,¹ it was agreed that the valuable and important right to purchase bait, both herring and capelin, on the southern coast might be conceded to the French at seasons when British subjects might lawfully take the same, as part of a general settlement. This suggestion took effect in a Convention agreed to on April 26, 1884, and revised and amended on November 11, 1885,² which was to have provided for a settlement of the question. This Convention contained an Article [XVII]:

French fishermen shall have the right to purchase bait, both herring and capelin, on shore or at sea, on the shores of Newfoundland free from all duties and restrictions, subsequent to the 5th of April in each year and up to the close of the fishing season.

This clause, however, proved fatal to any possibility of the acceptance of the Convention by Newfoundland, where opinion had definitely hardened on the question. Not only was the treaty considered unacceptable, and therefore was not ratified by the Crown, but a bill was passed in 1886 to regulate the exportation and sale of herring, capelin, squid, and other bait fishes, which was reserved by the Governor for the signification of the royal pleasure. The effect of this measure was to prohibit the sale of bait by Newfoundland fishermen to French fishermen ; and the French Government promptly protested against the proposal. As a result, it was not permitted by the Imperial Government to come into operation for the season of 1887, but an Act to the same effect, passed in 1887, was allowed to take effect after the fishing season of that year. The measure was supported by the Newfoundland Government and legislature of the day by representations to the effect that the fishing industry was in a grave position, inasmuch as the price of cod per quintal had

¹ C. 4,641, p. 7.

² Ibid., pp. 24 et seq.

fallen to 14s. in the European markets for British-caught fish, while, though French-caught fish fetched only 12s. 6d., that fact was compensated by the bounty of practically 8s. 6d. a quintal allowed by the French Government.

The result of the enforcing of the Bait Act (1887) was to compel French fishermen to find other sources of supply of bait. They therefore, among other means, resorted to fishing for bait fishes on the Treaty Shore, and were induced to commence taking shellfish for export. This practice raised fresh difficulties between the two Governments, the lobster fishery being a new one, and the taking of lobsters and the erection of lobster factories being asserted by the British and Newfoundland Governments to go beyond the terms of the treaties; while on its part the French Government claimed that British lobster factories impeded French fisheries, and were 'fixed settlements' which the British were under obligation to remove. Efforts to adjust the matter proved fruitless; negotiations in 1901, which seemed to promise some result, broke down on the demand of the colony that any concession as regards bait should be compensated by a modification of the bounty system; and the settlement of the main issue in 1904 left both contentions on the whole untouched. The French, however, were permitted not merely to take bait on the Treaty Shore, but also to obtain bait in any port or harbour on the coast on the same conditions as inhabitants of Newfoundland—a provision which of course does not compel the inhabitants of Newfoundland to sell bait to the French.

The effect of the Bait Act upon the French fisheries is discussed on p. 27.

(5) *Smuggling*

The proximity of Saint-Pierre to Newfoundland and the length of the coast of that colony obviously render smuggling easy, especially as French vessels have a right to fish freely on the west coast and a portion

of the east coast. Stress was laid upon this point when the Convention of 1885 was under negotiation, and the French Government agreed, in the event of the Convention taking effect, to instruct the commandant of Saint-Pierre and Miquelon to secure that vessels fitted out there for shipping purposes should not be allowed to take a larger amount of liquor than was necessary for the use of the crew. At the same time the French Government agreed to withdraw from their previous attitude of refusing permission for the establishment of a British consulate at Saint-Pierre and Miquelon.¹ As the Convention of 1885 was rejected by Newfoundland, these concessions by the French Government never became operative; and the establishment of a consulate was deferred until the new settlement of the fishery question by the treaty of 1904. To what extent smuggling actually takes place is not apparent. The treaty of 1904 contemplated the drawing-up of regulations regarding *inter alia* the liquor traffic on the Treaty Shore; but these regulations have not yet been agreed upon, and have doubtless lost importance in large measure since the French fishermen have ceased to be entitled to use the shore, and have therefore in many cases decided not to fish on the coast, but to resort to the Grand Banks or the waters of Saint-Pierre.

¹ C. 4,641, p. 23.

III. SOCIAL AND POLITICAL CONDITIONS

THE population is Roman Catholic. There are about 200 Protestants, all of British origin, who maintain one small chapel.

The islands are governed by an Administrator, assisted by a consultative council of administration and by municipal councils. Primary education is free, and there are three public schools for boys and three for girls, in addition to infant schools.

IV. ECONOMIC CONDITIONS

(A) MEANS OF COMMUNICATION

(1) INTERNAL

(a) *Roads, &c.*

Two or three roads lead from Saint-Pierre town to the extremities of the island. One, known as the Route de Gueydon, leads to the Cap de l'Aigle. Another, leading to Savoyard Point, was made some sixty years ago by the crews of the frigates *Iphigénie* and *Cléopâtre*, and forking from it is a road to Diamant Point. A road to Galantry Head was begun by French bluejackets in 1879, and finished by the State. Between Saint-Pierre and Miquelon communication has to be kept up by water. Though only a few miles of sea separate the islands, this strip of water is often difficult and even dangerous to cross, for a heavy swell runs there when the wind is in an easterly quarter, and the frail local craft are frequently lost in attempting the passage. A regular connexion is, however, maintained by a small privately owned steamer.

(b) *Posts and Telephones*

The colony possesses four post offices, namely a head office at Saint-Pierre and branch offices in the Île aux Chiens, and at Miquelon and Langlade. The connexion with the Île aux Chiens is made daily by a boat belonging to the Port Authority. With Miquelon and Langlade there is weekly postal communication, the little steamer which runs between the islands receiving a small subsidy for this purpose.

An urban telephone system at Saint-Pierre, created in 1897, was completed shortly afterwards by the establishment of a cable between the town and the Île aux Chiens.

(2) EXTERNAL

(a) Ports

There is only one port in the islands, that at Saint-Pierre. In Miquelon roads there is an anchorage in 6 fathoms with fair holding ground, but it is exposed to north and west winds. Eastward of the long shingle beach which joins Great and Little Miquelon Islands there is also an open anchorage; and at the northern end of the isthmus is a basin of considerable extent, which, however, can be entered only by small craft and in favourable conditions of weather and tide. There are no other ports or anchorages; hence the importance of the roadstead and harbour of Saint-Pierre.

In Saint-Pierre roadstead large vessels can anchor in from 7 to 15 fathoms of water. A mile in length, and protected by the Île aux Chiens from the worst winds off the sea, these roads offer a sure anchorage; for the effect of the north-east wind, to which alone they are exposed, is not sufficient to impair their safety. The entrance to the inner harbour, known as the Barachois, is at the end of the roads, between the Pointe aux Canons and a little islet called the Île aux Moules. This harbour is protected in part by nature and in part artificially by a breakwater and by the jetty which connects the Île aux Moules with the mainland. It can accommodate 200 fishing boats. In 1902 a loan of £20,000 was raised by the colony for its improvement; the entrance was widened to 60 yds. and deepened from 11½ ft. to 14 ft. Further deepening operations were at one time projected. The harbour is shallow in places and, as the holding is indifferent, vessels frequently get aground at low tide; but, as hardly any sea runs, they rarely sustain damage. Provisions and water can be obtained at Saint-Pierre, and coal is kept in stock, but no facilities are provided for coaling vessels.

Saint-Pierre has apparently possessed four patent slips at different times. One of these was 147 ft. in

length, with $9\frac{1}{2}$ ft. of water forward and $13\frac{1}{2}$ ft. aft on the blocks, and capable of taking a vessel of 200 tons. The second and third were each 75 ft. long, having respectively $8\frac{1}{2}$ ft. of water forward and $11\frac{1}{2}$ ft. aft, and $9\frac{1}{2}$ ft. forward and $12\frac{1}{2}$ ft. aft on the blocks, and taking vessels of 100 tons. The fourth had a length of 162 ft. and a lifting power of 600 tons; but this slip is understood to have been destroyed by fire, and one of the others seems no longer to exist. Vessels of neighbouring countries sometimes find it convenient to put into Saint-Pierre for repairs.

The direction and rates of the currents and tidal streams at Saint-Pierre are very irregular. Spring tides rise $6\frac{1}{2}$ ft., and neaps $4\frac{1}{2}$ ft. As regards ice, the harbour is nearly always open all the year round—it was last blocked in 1874; but field ice impedes navigation round the islands in the early months of the year.

(b) Shipping Lines

No ocean-going liners visit the colony. The only regular connexion with the outside world is afforded by the voyages of a small mail steamer. Formerly this steamer sailed under the French flag, running weekly to North Sydney (Cape Breton) in summer, and fortnightly to Halifax in winter, when visits to the former port had to be abandoned owing to ice. A subsidy of £4,000 a year was paid by the Colonial Government for the maintenance of this service—a heavy charge on the dwindling resources of a small community in a state of commercial decline. It was believed in Saint-Pierre that benefit would accrue from an extension of the mail service so as to include a connexion with Newfoundland, whose coastal steamers passed within sight of Saint-Pierre, without, however, receiving sufficient inducement to put in there. When the old contract expired in August 1912, a new service was undertaken by a vessel of the Newfoundland Produce Company,

and was so arranged as to connect Saint-Pierre with Newfoundland as well as with Canada on every voyage. The expectation that both colonies would gain by the establishment of direct communication, the British by securing a good market for its produce, and the French by obtaining necessities at lower rates, has proved fallacious. Few passengers and little cargo pass between the two. This disappointing result is due in a large measure to the imperfections of the new service. It runs irregularly ; goods, especially those of a perishable nature, receive unsatisfactory treatment ; and the vessel employed on the service draws too much water to cross the Saint-Pierre bar except at high tide, with the result that passengers are often obliged to embark or disembark in the outer roads in all weathers and at all hours of the day and night in a small tug or fishing boat. Such as it is, the service enables Saint-Pierre to be reached from Europe by way of Liverpool and St. John's, Newfoundland ; but this route does not seem likely to displace in general favour the old ones *via* New York and Halifax or *via* Halifax direct. The European mail travels by way of Sydney or Halifax, thence by rail to New York, and thereafter by the transatlantic service between New York and Le Havre. The larger fishing vessels, specially chartered steamers, and vessels known as *long-courriers*, which come to load up with fish, convey to Saint-Pierre most of the fishermen who come out every year from France for the season's fishing.

Shipping Statistics.—On the annual average of the period 1905–14 Saint-Pierre harbour was entered by 1,506 vessels of 147,115 tons. Of these, 638, with a tonnage of 102,526 tons, or about 70 per cent. of the total tonnage, were French ; 833 of 40,232 tons, or about 27 per cent., were British ; and 34 of 4,058 tons, or 3 per cent., were American. On a comparison of the annual averages for 1905–9 and 1910–14, the total shipping shows a decrease in numbers from 1,522 to 1,490, but an increase in tonnage from 117,589 tons to 176,641 tons. The percentage of French tonnage

declined from 72 to 68, and the British percentage increased from 25 to 29.¹

Saint-Pierre is visited by fishing vessels, by *long-courriers*, which bring out salt and carry away cod, and by vessels putting in for supplies or repairs. Small sailing vessels bring fish and firewood from Newfoundland, and moderate-sized craft bring provisions, live-stock, lumber, and various commodities from the United States and Canada. The foreign vessels which call are mostly of small tonnage.

Heavy port dues and wharf charges were formerly in force, and were thought to discourage the visits of shipping; but the reductions made in these from time to time have failed to counteract the adverse influences of commercial depression. Under the scale now in force vessels of 25 tons or under are admitted free; vessels of more than 25 tons pay an annual charge of 2s. a ton; vessels making the port, but not discharging cargo, pay an annual charge of 5d. a ton. Vessels fitted out in the colony, which formerly paid the same charges as foreign vessels, are exempt from port dues, as are ships landing coal, bait, or fresh fish. Vessels discharging at the quay pay wharf charges in addition.

(c) *Telegraphs*

By reason of its position in mid-ocean Saint-Pierre is a convenient *pied-à-terre* for transatlantic cables. The Anglo-American Telegraph Company has a station here for its lines running *via* Ireland and Newfoundland to Duxbury, Massachusetts, where it connects with the Western Union Telegraph Company of America. This company also has a line from Saint-Pierre to North Sydney, Cape Breton. The Compagnie française des Câbles télégraphiques has lines laid direct to Brest on one side and to Cape Cod on the other.

¹ These figures are based upon the tables in the *Statistiques de la Navigation dans les Colonies françaises*.

(B) INDUSTRY

(1) AGRICULTURE

The agricultural resources of the colony are of little importance ; the climate, the soil, and the neighbourhood of productive countries such as Canada forbid any attempt at agricultural development. In the rocky and infertile soil of Saint-Pierre Island nothing grows but stunted junipers and firs, which barely attain a height of 6 ft. when a century old ; nor do the hills and swamps of Great Miquelon offer a more congenial prospect to the farmer. In Saint-Pierre, however, most of the houses beyond the town have small gardens, in which the soil has been improved by long cultivation so far as to grow European vegetables ; and in Petite Miquelon, where there are meadows which yield good crops of hay, the fattening for slaughter of beasts imported from the mainland constitutes a small industry. The skins of these beasts are sent to Halifax for tanning, and this fact accounts for the export of hides which appears in the official statistics. A jam and a beverage are made from the fruit and the leaves of wild plants ; and spruce beer, brewed in considerable quantities, is consumed, not only by the islanders, but also by the crews of the fishing fleets, to whom it is useful by reason of its antiscorbutic qualities. Sea birds, rabbits, and a little game are killed for food.

(2) FISHERIES

Without agricultural resources, mineral wealth, or independent industrial activity, the colony of Saint-Pierre lives by its cod fishery, and owes not merely its importance but its very commercial existence to the accident of nature which has created a safe roadstead and harbour in proximity to the prolific fisheries of the Newfoundland banks. Nor is it to Saint-Pierre alone that those fisheries are of value, for the possession of the colony ensures to France a centre which renders

practicable for the fishing interests of the mother country the exploitation of those famous grounds. It is true that in this latter respect the importance of Saint-Pierre is diminishing ; but the part which it has played has been great, and is still not inconsiderable.

Fishing at Saint-Pierre is carried on both by colonial and by French fishermen, and is of two kinds, the less important longshore fishery (*petite pêche*), and the more important deep-sea fishery (*grande pêche*) on the Banks.

(a) *Longshore Fishery*.—The *petite pêche* is in the hands of Saint-Pierrais fishermen, most of them belonging to the Norman settlement on the Île aux Chiens, but some being drawn from the people of Miquelon. A few of them use schooners or sloops, but for the most part their operations are conducted in boats of local construction, which according as they are small or large are known as dories or waries, and are light, flat, and easily handled, even when not fitted with motors, as many of them now are. Before the Convention of 1904 a certain number of Saint-Pierrais men were accustomed to fish on the Newfoundland coast, whither they, their boats, salt, and provisions were conveyed by steamer at the beginning of each season. Even in those days, however, it was in the waters of the islands that the majority fished, generally working in pairs. Formerly they used always to dry their own fish or sell it for drying to an establishment at Saint-Pierre ; but of late years much or all of their catch has been sold for export in a 'green' state. They are now also occupied in the provision of bait ; for, since the cessation of supplies of bait from Newfoundland under the restrictions of the Bait Act, ships operating on the Banks have looked to the longshore fishermen for supplies of capelin, squid, and periwinkle from the waters of the islands.

The life of the longshore fisherman is pleasanter and less perilous than that of his deep-sea colleague ; he returns each night to his home, and is not exposed to the hardships and dangers of fishing on the Banks. Not much capital is required for his enterprise, the sum of £12 or thereabouts being sufficient to cover his

whole initial outlay. It is not, therefore, surprising that the longshore fishery should be increasing in popular favour with the islanders, to the detriment of the manning of the deep-sea fleet.

(b) *Bank Fishery*.—The fishery on the Banks is carried on by Saint-Pierrais vessels and by ships from France, and these may be subdivided according as they have a drying-ground at Saint-Pierre, when they are said to be *armés avec sècherie*, or merely salt their catch on board, when they are described as being *armés sans sècherie* or *armés avec salaison à bord*. They used to be further subdivided according to the locality of their operations, which might be the Banks, the French Shore, or the territorial waters of the islands; but since the Convention of 1904, which virtually suspended French activities in Newfoundland waters, this classification has lost its significance. Before the Convention, *armements pour le French Shore* were in a state of marked decline, for experience had shown that this locality was much less lucrative than the other fisheries.

(c) *The Local Fleet*.—The Saint-Pierrais boats engaged in the deep-sea fishery are mostly of small dimensions, usually of 40 to 50 tons burden. The prevalent type is a schooner with six dories and a crew of sixteen or eighteen men, a dozen of whom are employed in the dories, while the rest work the ship. Most of these craft are of indifferent quality. As the islands grow no wood suitable for ship-building, the schooners are usually bought in America; even when new they are inferior to French-built vessels; and as a measure of economy, or for lack of funds, many colonial owners purchase old ships already deteriorated by service afloat. Local owners are also allowed to employ uncertificated masters, and, again from motives of economy, they often place their vessels in charge of incompetent men.

The local fleet has suffered a great decline since the beginning of the present century. At one time numbering 200 vessels or more, it had decreased to half that number in 1905; it consisted of 50 schooners only in

1911, and of no more than 24 in 1914 (see Appendix, Table I, p. 47). This decline, which has been attributed sometimes to the Bait Act and sometimes to the Convention of 1904, is thought to be due in fact to bad fishing seasons, coupled with special economic causes operative at Saint-Pierre. Substantial fortunes being rare in the colony, the majority of local owners are obliged to have recourse to credit to fit out their vessels; money and goods are advanced on onerous terms; and after a bad season credit becomes yet tighter, and the position of the borrower still more difficult. The season of 1903 was bad, that of 1904 disastrous, that of 1912 indifferent, and that of 1914 seems to have been the worst of all. After such seasons schooners lost at sea are not replaced; and of those which remain some are laid up and others are sold in foreign markets. Besides this, the imposition in the colony of the general French customs tariff has made it more profitable for owners in the mother country to equip vessels in home ports rather than at Saint-Pierre, where some of them used to be fitted out. Further, the disinclination of the island fishermen to embark in the deep-sea fleet has increased the proportion of European recruitment, which adds greatly to the cost of equipment. Hence the rapid decline in the size of the local fleet.

(d) *The Home Fleet*.—Besides the colonial fleet many French vessels are dispatched each year from home ports to fish on the Banks. Fécamp, Saint-Malo, Saint-Servan, Granville, and Cancale provide the greater part of them. The size of the ships from the mother country has generally been greater than that of the colonial schooners, and it has tended to increase. They now consist to a considerable extent of three-masted vessels, many of them of 300 tons, with fourteen or fifteen dories; and ships of 400 tons are not unknown. If less handy than the old schooners, which may still be seen beside them, they are usually more seaworthy and possess other advantages. At prices prevailing before the war they were worth on an average about £2,000, some of the bigger ones being worth £3,000,

whilst the colonial schooners were worth only about £1,000 apiece. Unlike the colonial fleet, the home fleet has been increasing in numbers, having gained by some of the causes which have discouraged outfitting at Saint-Pierre. Averaging 162 vessels in the seasons 1895 to 1899, it consisted of 224 for the period 1900 to 1905, and in 1909, when the local fleet was reduced to 44 vessels, the home fleet had increased to 260 ships, 30 of which were steam trawlers.

The advent of steam trawlers produced consternation among the owners of fishing vessels, who saw in them a formidable menace to line fisheries; but in commercial circles in Saint-Pierre they were welcomed as heralding the dawn of a new era of activity in the colony. Both the fear and the hope have proved unsubstantial; the usefulness of the trawlers on the Banks has been limited, and, as so far employed, they have proved of practically no benefit to Saint-Pierre. The trawler possesses two advantages over the sailing vessel, independence of bait and greater certainty and facility of movement, which enable it to work on different grounds at different periods of the season. But trawlers do not seem to have realized expectations on the Newfoundland Banks.

The year 1900 saw the first appearance of these craft, when Paimpol sent a trawler to the Banks; Granville tried the experiment in 1904; and in 1906 there were two trawlers at work. The Banks were found to be uneven, rocky, and strewn with wreckage, which greatly impeded the movements of the vessels and damaged their trawls. The venture, however, being still in an experimental stage, the results obtained were not regarded as conclusive. In 1908 there was an increase in the number of trawlers; 11 entered Saint-Pierre harbour, carrying some 26,000 or 27,000 cwt. of fish; many more were at work outside, and observers came to the conclusion that this type of vessel was destined sooner or later to predominate on the Banks. In the following year, however, when 30 French and 2 Canadian trawlers were employed, the results

were exceedingly disappointing, their average catch being actually less than that of a small Saint-Pierrais schooner, and His Majesty's Consul formed the opinion that 'trawlers are not . . . a success in these waters'.¹ Nor had they contributed to the commercial activity of the colony—the trawler is fitted out in a French port; it gets its coal supply at Sydney, whilst most of its provisions come from France, passing through the Canadian customs in bond; and its catch is exported to France in a green state.

(e) *Armements avec ou sans Sècherie*.—Without entering into the details of the treatment to which cod is subjected after capture, it may be said that upon being caught it is first cleaned and treated with salt, when it becomes what is known as *morue verte*, and in that state it can be preserved for a long time without the necessity arising for converting it into *morue sèche*. The owner of a boat without a drying-ground undertakes to deliver his whole catch to French commercial houses; all that his boats may do is to come to Saint-Pierre when full up—and they can usually hold all that they take—when they either transfer the catch to a *long-courrier* or deposit it temporarily ashore until accommodation in such a vessel is available. The owner of the other class of boat has drying-grounds at Saint-Pierre, and his vessels put back at intervals to unload their fish and to replenish their supplies of provisions and salt. For the time expended in this operation they usually find a compensation in the good price realized by early landed cod, though, should the season turn out to be a bad one, prices may very well rise as it progresses. The distinction between boats with and without drying-grounds is of importance mainly in connexion with the bounties given by the French Government, which vary according to the sort of boat employed (see p. 30).

(f) *The Fishery Grounds*.—There are two groups of Banks on which the French fleets fish. The first group

¹ *Annual Report* for 1909, Cd. 4,962.189 (Annual Series, No. 4577), pp. 3–4. The number of trawlers was 9 in 1911, 16 in 1912, and 23 in 1914.

consists of the Bonnet Flamand, the Grand Bank, the Banc-à-Vert, and the Banc de Saint-Pierre. Of these the Grand Bank is the most important. The Bonnet Flamand and the Banc-à-Vert are not much frequented by the French, though large cod may be caught on the former and a good many flounders on the latter; but the Bonnet Flamand is too far from the mainland, the water is too deep, there are icebergs there in the spring, and in the summer it is invaded by dog-fish. The Saint-Pierre Bank is conveniently close to the island, its depths are moderate, its area is well defined, and in all of these respects it is advantageous to the smaller vessels, which frequently enjoy good fishing there. Of the Banks in the second group the Banquereau alone is visited by French vessels. The cod here are small, however, and they desert the Bank in June or July.

(g) *Bait and the Bait Act.*—The fishing season, which depends upon the presence of bait and the absence of bad weather, lasts from April till October. On reaching the Banks the fishing vessel takes up her station, riding at anchor, and from her her dories radiate to lay their lines. Since each vessel carries several dories and the larger carry many, and since each dory lays two lines, each furnished with at least 2,000 hooks, the consumption of bait is very considerable. For many years the customary bait on the Banks was the herring in April and May, the capelin (a sort of smelt) in June and July, and afterwards squid until the end of the season. Supplies of bait were in part derived from Newfoundland and in part were provided by capture during the fishing. In recent years, however, by reason of restrictions placed upon the sale of bait by the Newfoundland Bait Act (see p. 11), and of the growing scarcity of bait fishes on the Banks and in the waters of the colony, a problem vital to French fishing interests has presented itself for solution. Two courses have been adopted. In the first place, recourse has been had to new sorts of bait obtainable at Saint-Pierre or on the Banks, and particularly to a large periwinkle, which has proved satisfactory. In the second place,

a cold storage for bait has been inaugurated at Saint-Pierre, in which the herring and squid of one season can be preserved for use in the next. The former French mail boat, now no longer subsidized, was also equipped with a refrigerating chamber in which frozen bait could be imported when supplies ran low in the islands.

In Newfoundland and elsewhere it has been assumed that the Bait Act, which came into operation in 1888, dealt a deadly blow at the French fishing fleet, and that the subsequent decline of Saint-Pierre is attributable to it. In fact, however, the decline which has followed the Act would appear to be unconnected with it. There have been fishing seasons since the passing of the Act as profitable as any in the period which preceded it; and the export of fishery products was substantially as large in the years which followed as in those which preceded the passing of the Act. For the twelve years from 1889 to 1900 this export was of an average annual value of £403,318. For the twelve years from 1876 to 1887 it stood, it is true, at a slightly higher figure, namely, £421,215; but the fisheries were exceptionally productive just before the Act came into force; and if 1885, a 'bumper' year, be excluded, the average annual value in the years which preceded the Act was £399,790, while for the period 1876 to 1882 it was only £355,640.¹

The bad seasons did not begin until 1903, long after the effects of the measure had made themselves felt, and they have been due to a natural scarcity of bait, from which Newfoundland herself has suffered, and above all to the scarcity of cod. More than once it has happened that there have been poor supplies

¹ *Journal Officiel*, October 27, 1911, p. 1620. The tables there given show the values of dry and salt cod and other fishery products, of 'various goods', and of 'total exports'. In some cases the values of the several items, when added together, come to rather more or rather less than the 'total exports'; but the differences do not affect the argument in the text, where the values given are reached by deducting the value of 'various goods' from that of 'total exports'.

of capelin, which used to be so plentiful in Miquelon that they were thrown up in heaps on the shore; and the once ubiquitous squid 'is tending to become a zoological curiosity'.¹ In 1911 squid failed entirely, with the result that the cold storage had no stock for sale in 1912; and in the latter season its failure was again so complete that the longshore fishermen, who generally sell to the deep-sea fleet, were unable to secure enough for their own use. The scarcity of cod has been a still more serious matter.

From causes as yet imperfectly understood cod has become scarce on the Banks where the French catch their fish. The same vessels, manned and equipped in the same manner, have, under the same conditions of weather, bait, &c., caught but half as much cod within a given number of days during the past four or five years as they used to do in former times.²

If the conditions with regard to bait have been the same, the Bait Act cannot have contributed to the result here described. Indeed, in an authoritative work by French authors upon the fisheries of their country, the conclusion come to is that that weapon has been damaging rather to the hands which have wielded it than to its intended victims. 'It may then be said', they conclude,

that it is more particularly to the interests of Newfoundland that the Bait Bill has been prejudicial: the upkeep of the steamers charged with the enforcement of the law has involved the colony in an expenditure of £9,000 a year; and, much to their annoyance, the people of the South Coast have been compelled to forgo the exceedingly lucrative traffic in bait which they once carried on with our fishermen.³

(h) *Fishery Products*.—Some herrings, flounders, and halibut are caught, and a few lobsters taken, but cod is the backbone of the industry. Cod is exported both in a dry condition and salted; its roes are used as

¹ R. de Caix, *La Question de Terre-Neuve* (Questions Diplomatiques et Coloniales, June 1, 1904, p. 35).

² *Annual Report* for 1906, Cd. 3,283/131 (Annual Series, No. 3870), p. 3.

³ Darboux and others, *L'Industrie des Pêches aux Colonies*, II. 412.

a bait in the French sardine fisheries ; various parts of it are made into a food which commands a sale in certain countries, and cod-liver oil, besides being used medicinally, is also employed industrially in the process of tanning.

Unfortunately it is impossible to extract from the various official statistics any exact notion of the general value to France of the fisheries for which Saint-Pierre acts as a base, or to determine from them the precise contribution of the colony ¹ to the general result. So far as the yield of the fisheries can be measured by the exports of the colony (see p. 36), it would appear to have fallen sharply since the beginning of the present century ; but it must be remembered that the growing practice of sending out from France large vessels which in ordinary seasons are capable of carrying their catch straight home without any intermediate visits to Saint-Pierre to unload, would tend to reduce the export figures of the colony without really affecting the value of the fisheries in general. And, even though the larger ships make no use of Saint-Pierre either for taking in provisions and supplies of bait or for unloading their catch, yet it is the fact that directly or indirectly the colony is a *point d'appui* for the whole French fishery on the Banks ; and in any attempt to estimate the present or future value to France of the islands, regard must be paid to the growth of the home fleet, the increasing importance of which has to be weighed in the balance against the diminution in the size of the colonial fleet and the general commercial decline of the colony.

(i) *Bounties*.—For many years the French Government has encouraged the fisheries by the grant of bounties on ships, crews, or products. In the case of the fleets which fish on the Newfoundland Banks, these bounties are at present of two sorts : (i) bounties in respect of the crews, called *primes d'armement*, and (ii) bounties

¹ The approximate value of the catch of the colonial fleet is given in the Appendix, Table I, p. 45 ; but the figures there do not include the yield of the longshore fishery.

on fishery products, or *primes sur les produits de la pêche*. In respect of the crews, the following sums are allowed : (a) for vessels with drying-grounds, for each man of the crew, £2 ; (b) for vessels without drying-grounds, for each man of the crew, 24s. For the former, certain minimum crews are prescribed in accordance with the size of the ships. In respect of fishery products the bounties are : (a) on cods' roes taken to France, approximately 8s. per cwt. ; (b) on dried cod sent direct from the fishery or from a French bonded warehouse to a French colony in America, India, or West Africa, or to a transatlantic country where there is a resident French consul, approximately 8s. per cwt. ; (c) on dried cod sent direct or through France to any European country or to any Mediterranean country other than Algeria or Sardinia, about 6s. 6d. per cwt. ; (d) on dried cod exported from ports in France to French colonies in America, India, and other transatlantic countries without having entered a bonded warehouse, about 6s. 6d. per cwt. ; and (e) on dried cod sent to Algeria and Sardinia, slightly less than 5s. per cwt.

To preserve the French market, the general customs tariff of 1892 imposed a substantial tax on the products of foreign cod fisheries, and the import of all such products into Saint-Pierre is prohibited under heavy penalties. The bounties themselves, however, are not so much commercial in character as designed to foster the fisheries and the mercantile marine as recruiting grounds for the naval forces of France. According to a calculation made by His Majesty's Consul at Bordeaux in his report on French fisheries, written in 1899, the system secures annually an addition of 1,300 experienced, well-trained, hardened seamen to the numbers of the merchant marine, who form, with the 13,000 men employed in the fishing fleet, a valuable reserve which could not be obtained by any other means.

It used to be thought in neighbouring countries that the bounties in respect of the crews, originally confined

to men recruited in France, were meant to compensate the French for the trouble and expense involved in conveying their fishermen many hundreds of miles to the scene of their operations, and so enable them to compete on equal terms with Newfoundland and America. The subsequent extension of the bounty system to the Saint-Pierrais fishermen, however, aroused indignation in Newfoundland, and to these feelings expression was given in the Bait Act. The French argue that England had implicitly admitted the bounty principle by entering no protest against it when the Treaties of Versailles and Paris and the Convention of 1857 were negotiated; that the matter is one of purely domestic concern; and that although the extension of the system to the Saint-Pierrais fishermen might seem to enable them to undersell their competitors, yet their catch is a very small part of the total yield, the price of which depends, not upon them, but upon the operations of the deep-sea fleets.

(3) LABOUR CONDITIONS

The lot of the Bank fisherman is a hard one. He is engaged in prolonged and arduous toil, which is but indifferently remunerated; the hygienic conditions of his existence are deplorable, and he is menaced by incessant danger. The dory frequently gets astray and is lost in the fogs which envelop the fishing-grounds; unseaworthy parent vessels founder in the storms which sweep over them; and, as the grounds are in the path of ocean liners and the costly expedient of cutting the cable is often adopted too late, the risk of collision is considerable. As regards the condition of the ships, French naval officers reluctantly admit that the fishing craft of their country are too often recognizable by their pitiful appearance; and in truth the older ships, besides being frail, are invariably dirty, insanitary, and ill-ventilated. These conditions are aggravated by the bad climate and by the effects of exacting labour, insufficient food, and

the intemperate habits of the crews. Typhoid, gastritis, scurvy, bronchitis, anaemia, and rheumatic affections are common in the fleet, as are wounds, ulcers, and poisoning contracted in the course of employment; for, in addition to the ordinary risks to limb, the men suffer from the corrosive fluid emitted by the squid, and from pieces of periwinkle shell which damage their hands and feet.

Although the services of the French naval surgeons, when they happen to be in those waters, and the activities of the *Société des Œuvres de Mer* do much to improve matters, they cannot entirely counteract the want of proper drugs and the lack of regular and prompt medical attention. Something has been done of late to improve this state of affairs. Premiums on cleanliness are given; dories are required to carry a compass and supplies; abstinence from alcohol is encouraged; the hospital ships and the Homes of the *Société des Œuvres de Mer* offer the prospect of cure and recreation; and the larger modern vessels are more commodious, better equipped, and less insanitary than the old. At best, however, the life of the fisherman on the Banks is full of hardship and peril.

The men of the French fleet are recruited at home, mostly in Brittany, even for the ships which come from ports in Normandy; for the Norman has not much relish for an arduous and ill-remunerated occupation. The Saint-Pierrais boats are manned locally so far as possible, and draw upon France for the balance of their requirements. The men thus brought out from home come, as a rule, bringing with them *projets de rôle*, which are really executory contracts of service between themselves and the owners who are engaging them. These contracts are carried out under official supervision. The terms of service usually provide for the supply of the man's food, for a certain guaranteed minimum wage, and for a share in the proceeds of the fishery. The manner in which the catch is shared between the owner and the crew depends upon the stipulations of the contract between them; but generally

the crew take the value of a third of the catch, less a like fraction of the cost of bait, the value of the catch being determined by the mean price of cod during the season. The part assigned to the men is divided between them in some agreed manner. They also receive 'gratifications', which are not real gratuities, since they are covered by the contract, as well as genuine gratuities voluntarily given by the owner. So many fluctuating circumstances govern the fisherman's earnings that they cannot be assessed with precision, but it may be taken that they seldom amount to much more than a meagre wage..

Yet another evil influence in the life of the fisherman, if he be a man of Saint-Pierre, is the pernicious system of the *livret enregistré*, known shortly as the *livret*. Under this system the man buys his necessities on credit, the bill being recorded in a book of account which is *visé* by the *Juge de Paix*. When the fisherman is paid off at the end of the season the tradesman puts in his claim for the amount recorded in the book of account, in respect of which he has been placed by local law in the position of a secured creditor. Buying on credit, the man is charged exorbitant prices, and that is not the worst feature of his situation; for if the season seems likely to be bad, his family is virtually cut off from further supplies; whilst, if the season promises well, it is incited to extravagance by a tradesman assured of payment. The fisherman, therefore, knows beforehand that he has little to expect from the work of the season, whether it be good or bad.

All hope of improving his state is forbidden by the very conditions of his existence, and the fact renders him discouraged and indolent; working without hope, he works without keenness and without conscience; living on credit, he fares ill; and his material situation and his moral condition are alike lamentable.¹

¹ Darboux, *Les Colonies françaises au Début du xx^e Siècle*, pp. 419-20. The privilege of the tradesman has been limited by a decree of 1905, under which he may only claim against a man's wages to the extent of £20, if the man be married, and of £16, if he be single.

Moreover, the prevalent system of outfitting on credit and the *livret enregistré* together operate to produce in Saint-Pierre the economically vicious result that the colony subsists, not upon money earned in respect of fish actually caught, but upon visionary and sometimes elusive profits.

(4) MINERALS

The islands are devoid of mineral wealth. Yellow ochre has been found in Miquelon, and Petite Miquelon contains slate, but it is not of commercial value. It was at one time believed that gold existed at Cap Miquelon, but upon analysis the substance which had given rise to the theory turned out to be sulphate of copper and iron pyrites. In 1907 the geological structure of the islands was scientifically examined, and the surveyors reported that neither gold, coal, nor iron in concentrated form appeared to exist.

(5) MANUFACTURES

The other industries of the colony arise out of, and depend upon, the cod fishery. The patent slips and the drying-grounds for cod have already been noticed. Sail-makers, block-makers, caulkers, carpenters, and smiths find employment in and around the yards. Dories are built locally. The manufacture of oil-cloth was begun in 1896. A foundry and machine shop was opened in the following year. In 1898 a sea-biscuit factory was established, with a capacity of about $2\frac{1}{2}$ tons a day; and, enjoying many openings on the spot together with efficient protection, it prospered rapidly. In the same year a copper-paint factory was inaugurated. Barrels for packing fish and bait, which used to come from America, are also made locally. The cold storage, which comprises an ice and salt plant, can contain 8,000 barrels of bait; it uses 300 or 400 tons of ice annually, some 1,500 tons of ice being taken in the winter from the hills behind Saint-Pierre, and the surplus sold to the fishing-fleet for the preservation of bait. Medicinal cod-liver oil,

said to be of excellent quality, is manufactured locally ; but this industry is decaying, and two small concerns engaged in the business have lately ceased operations. A fish-glue factory, lately destroyed by fire, has not been rebuilt, and an attempt, made some years ago, to convert peat into fuel has been a failure.

(C) COMMERCE

(1) DOMESTIC

The internal trade of the colony is almost entirely in the hands of French houses. These are of three kinds : (i) houses established by local enterprise, which do a retail trade in food-stuffs, textiles, crockery, and other necessities for domestic consumption and the use of the fishing-fleets ; (ii) French houses with drying-grounds at Saint-Pierre, which fit out fishing vessels and *long-courriers*, and export cod to France and to French colonies ; and (iii) French houses with branches at Saint-Pierre, which purchase undried fish and have created the market in 'green' cod. For many years two American houses were represented in the islands ; but one of them gave up its agency a few years ago, and now one Boston firm is the only resident representative of American interests in the colony.

A Chamber of Commerce exists at Saint-Pierre ; it was reorganized and regulated by a decree of April 1, 1878.

(2) FOREIGN

(a) *Exports*

Quantities and Values.—A marked decrease in exports has occurred since the beginning of the present century. Of the value of £538,698 in 1900, they were worth only £252,402 in 1914 ; and of the value of £437,831 on the annual average of the period 1900–4, they amounted only to £294,400 and £291,237 respectively on the annual average of the two following quinquennial periods. They consist almost entirely (98 per cent.) of fishery products, viz. salt cod, dried cod,

other salt and dried fish, cods' roes, cod-liver oil, lobsters, and herrings. The decrease is due in part to the diminished productiveness of the fisheries and in part to the decline in the colonial fleet and the increased employment in the home fleet of large sailing vessels and trawlers, the catch of which is not landed at Saint-Pierre, and is therefore excluded from the colonial returns. The export of salt cod, which was worth £220,013 per annum, or 84 per cent. of the total exports, on the average of the period 1905-14, has grown at the expense of the dried article, the export of which was worth annually nearly £120,000 from 1885 to 1899,¹ but something less than £30,000 from 1905 to 1914.² A decline has also taken place in the exports of cods' roes and of cod-liver oil. In addition to fishery products there is a trifling export of hides, derived, as mentioned above, from beasts imported for fattening, the skins of which are sent to Halifax to be tanned. There is also a small trans-shipment trade, consisting of the sale of imported articles to ships calling for supplies; but such vessels are decreasing in size and number, and this trade is of no great account. The exports exceed the imports in value by some £100,000 a year. Their quantities and values are given in the Appendix, Table III, p. 47.

Countries of Destination.—The export trade of the colony is directed almost entirely to France, which takes about 90 per cent. of the whole (see Appendix, Table IV, p. 48). French colonies take rather over 5 per cent., chiefly in the shape of herrings, dried cod, &c., sent to the Antilles; Canada takes about $4\frac{1}{2}$ per cent.; and exports to the value of a few hundred pounds annually are sent to Newfoundland and other countries. So far as not consumed in that country, the cod sent to France is re-exported to Spain, Portugal, Italy, Algeria, Greece, and the Levant, and sometimes even to South America. There has been some expansion in the trade with the French colonies and in that with Canada, but in each case the volume of trade is small.

¹ *Journal Officiel*, October 27, 1911, p. 1620. ² See Table III.

(b) Imports

Quantities and Values.—Like the exports, the imports of the colony have suffered a very great decrease in recent years. Of the value of £367,642 in 1900, they were worth only £170,508 in 1914; and of an annual average value of £337,264 in the period 1900–4, they amounted only to £193,577 on the average of the period 1910–14. The decrease is due to the diminished prosperity of the colony owing to the partial failure of the fisheries, and to the reduced requirements of the colonial and home fleets and of foreign vessels. As the colony produces nothing but fish, many of the imports are of an alimentary character, these amounting together to about 30 per cent. of the whole. Textiles, 10 per cent.; wines, spirits, and liquors, 9 per cent.; farinaceous substances, 8 per cent.; salt, not quite 8 per cent.; colonial produce, 7 per cent.; machinery and metal goods, 6 per cent.; coal and cordage, each about $4\frac{1}{2}$ per cent.; live-stock, 4 per cent.; and animal products, such as meat, milk, butter, and cheese, amounting together to about 8 per cent., are the principal imports. There is a small import of fish, it being a curious fact that in Saint-Pierre, which exports fish to a value of over a quarter of a million pounds a year, fresh fish is difficult to buy, and usually comes from Newfoundland or Canada. If the quinquennial period 1910–14 be compared with that which preceded it, nearly every article of import will be found to show a slight decrease in value roughly commensurate with the general decline in trade. The quantities and values of the imports are given in the Appendix, Table III, p. 47.

Countries of Origin.—The import trade is divided almost equally between France and foreign countries. Amongst the latter British possessions take about 28 per cent., made up as follows: Canada, 24 per cent.; Newfoundland, $2\frac{1}{2}$ per cent.; and the United Kingdom, $1\frac{1}{2}$ per cent. Amongst other countries the only important source is the United States, which handles $14\frac{1}{2}$ per cent. of the import trade (see Appendix, Table IV, p. 48).

The chief articles supplied by France are textiles, 90 per cent. of the import of that commodity on the average of the period 1905-14 (see Appendix, Table V, p. 49); wines, etc., 86 per cent.; machinery and metals, 63 per cent.; cordage, 79 per cent.; groceries, 31 per cent.; leather goods and furs, 62 per cent.; meat and other animal products, 25 per cent.; paper and paper goods, 83 per cent.; and farinaceous substances, 10 per cent. Comparing the second with the first quinquennial period, the percentage of French goods imported shows a slight increase, both actually and relatively to the total import of the commodity, in the case of cordage and leather goods and furs, and, relatively only, in the case of groceries. With the exception of animal products, in which it is stationary, the French percentage shows a decrease in the case of the other commodities mentioned.

The imports from Canada are coal, oil, and building materials, 72 per cent.; meat and animal products, 48 per cent.; live-stock, 90 per cent.; farinaceous substances, 31 per cent.; timber, 73 per cent.; groceries, 21 per cent.; and leather goods and furs, 34 per cent. On a comparison of the two quinquennial periods there will be found actual and relative increases in coal, &c., and in farinaceous substances, the latter having nearly doubled, and relative increases only in animal products and timber. Live-stock, groceries, and leather goods and furs show relative declines.

The fish imported from Newfoundland represents 59 per cent. of the whole import of fish on the average of the years 1905-14. From the first to the second quinquennial period it has declined sharply.

The United States supply farinaceous substances, 53 per cent.; groceries, 29 per cent.; meat and animal products, 25 per cent.; coal, oil, and building materials, 22 per cent.; and machinery and metals, 10 per cent. The import of machinery and metals has increased. That of farinaceous substances has fallen sharply.

The direct trade with Great Britain is insignificant;

but a certain quantity of fishing-hooks, chains, anchors, cutlery, &c., of British manufacture finds its way to Saint-Pierre by indirect routes through France, Canada, and the United States.

Salt is imported from Cadiz and Lisbon. The fishermen evince a marked preference for Spanish and Portuguese over French salt, which is less pure and impairs the colour of the fish that are cured with it.

(c) *Customs*

In principle the customs dues levied in the colony are those of the French general tariff, but in practice there are modifications adapted to the peculiar needs of the islands. Thus the local boat-building industry is protected by a duty of £1 apiece on imported dories; the manufacture of sea-biscuits is encouraged by the fact that, while the duty on the raw material is only light, that on the finished product is heavy; and the import of foreign cod is prohibited. The French duties are also abolished or reduced in the case of food-stuffs and other articles of necessity which France cannot herself supply by reason of her distance from the colony and of the nature of the goods. Not long before the outbreak of war further special modifications of the tariff were authorized in consequence of the state of commercial debility into which the islands have fallen.

(D) FINANCE

(1) *Public Finance*

That the budgets of the colony may balance, it is usually necessary for assistance to be accorded by the Home Government in the shape of subventions. On the average of the years 1900–7 the receipts and expenditure were as follows: Receipts:—subventions, £2,945; direct contributions (real property tax, &c.), £1,558; customs receipts, £6,915; excise dues, £3,564; shipping dues, £4,779; various duties (*droits de statistique, d'octroi de mer, de francisation, de jaugeage,*

de magasinage), £664; and miscellaneous, £2,567; total, £22,992. Expenditure:—general administration £2,290; justice, police, &c., £2,704; education, public relief, &c., £2,284; customs, £1,270; post office, £4,329; public works, lighthouses, &c., £3,030; and miscellaneous, £7,447; total, £23,354.¹ A reserve fund is available for meeting small deficits. The chief officer of the colony was reduced in rank in 1906, and various administrative economies have been effected, but it is said that the cost of administration is still excessive.

The customs duties and shipping dues have already been noticed in detail. Together with them, the excise dues and the wharfage dues, warehouse charges, and other duties, even though in themselves of relative moderation, impose a sum total of taxation which constitutes a considerable burden upon the Saint-Pierrais importer and his customers.

Besides the colonial budget, the colony has three *Communes*, with a municipal expenditure of their own of some £5,000 a year. The municipal chests derive their funds from various sources, the chief being the *droits d'octroi de mer*, nine-tenths of which are allocated to the municipalities, the remaining one-tenth being retained by the colonial administration to cover the cost of collection. The wharfage dues levied in the Barachois (the inner harbour of Saint-Pierre) are also a municipal imposition. If, as frequently happens, the ordinary sources of revenue are insufficient to meet the expenditure, the municipal budgets are balanced by means of a supplementary tax upon property.

(2) *Currency and Banking*

French money alone is legal tender in the colony; but it is much less plentiful there than foreign coin, and the local Treasury is authorized to accept the coins in most common use, namely the Spanish or Mexican doubloon at the rate of 82 francs, the American eagle

¹ *Statistiques des Finances des Colonies françaises.*

and dollar at the rate of 108 francs and 5 francs 40 centimes respectively, and the English sovereign at the rate of 26 francs.¹ The high value assigned to foreign currency has operated to promote its introduction ; but, as regards the English and American money at all events, the tolerance accorded to it may be thought to facilitate the constant exchange which goes on between the colony and her British and American neighbours. It would have been well, however, if French money could have been made available in greater quantities, for the effects of its scarcity have been prejudicial to trade ; Saint-Pierrais houses remitting to France used to be obliged to buy paper at dear rates, and local commerce was thereby hampered in its relations with the mother country. It was to remedy these inconveniences that a French bank was founded at Saint-Pierre in 1889 under the name of the Banque des Îles Saint-Pierre et Miquelon. It has a capital of £20,000.

¹ These rates were those obtaining before the late war.

V. GENERAL OBSERVATIONS

THE welfare of the Colony, (wrote His Majesty's Consul in 1905,¹) depends entirely upon the fisheries; when cod is plentiful, commerce flourishes; when the catch is poor or bad, the result is stagnation in every branch of trade. At present the usual signs of bad times are to be met with at every turn—empty sheds, stores, shops, and houses in various stages of disrepair and decay; fish-drying yards, carefully prepared with large stones for airing the cod, choked with weeds, and the surrounding woodwork succumbing to wind and weather; landing-stages, built at considerable expense and trouble, gradually rotting and falling to pieces; merchants are liquidating and going away, whilst none come to replace them.

Four years later the picture was equally gloomy.

The decline of Saint-Pierre, said the report for 1909,² is evident even to the most casual observer. Abandoned houses are almost as numerous as those that are occupied. Many buildings have been allowed to decay beyond repair. The Government is without funds to maintain properly the public works already completed.

Various suggestions have been made for remedying the state of affairs here depicted. It is true that Saint-Pierre has been hard hit by the preference now given to home ports in the outfitting of fishing vessels and by the reduced custom of foreign ships, and it is possible that those movements might be checked by a drastic modification of the customs tariff, the shipping dues, and the other vexatious charges which have helped to empty Saint-Pierre harbour; by the establishment of efficient supply depots; and by reduced postal rates, better mail and freight services, and improved communications in general. But the decline of the colony is due primarily to the scarcity of cod

¹ Report for the year 1905, Cd. 2,682/252 (Annual Series, No. 3727), p. 4.

² Cd. 4,962/189 (Annual Series, No. 4577), p. 6.

and of bait fishes, over the movements of which man has no control.

The economic value of Saint-Pierre and Miquelon, in the eyes of French publicists, is as a port of call for deep-sea fishers. It has therefore been suggested that they should be made free ports, to which as many ships as possible of all nationalities might be attracted. At present the clientèle is practically restricted to the French fishermen who earn the bounties which the State offers. The colony has no other economic use than as a port of call. The navigation of the waters round the islands is difficult, and landings are often attended with some danger.

APPENDIX

TRADE STATISTICS

TABLE I¹

FISHERY STATISTICS, SAINT-PIERRE FLEET

	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Number of schooners fitted out in the Colony ²								
" lost during the season	71	53	44	53	50	40	29	24
" remaining	6	3	1	4	5	0	1	0
"	65	50	43	49	45	40	28	24
Approximate mean price of salt cod per cwt.	17s.	12s. 2d.	11s. 2d.	12s.	15s.	18s. 6d.	18s. 7d.	20s. 1d.
Total catch of local fleet { weight in cwt. . approximate value	124,843 £106,000	110,671 £67,000	120,743 £67,000	126,844 £76,000	73,404 £55,000	44,302 £41,000	48,375 £45,000	21,880 £22,000
Value of total export of fishery products .	£250,129	£216,378	£304,471	£336,382	£305,621	£206,443	£223,572	£230,101
Approximate average catch per schooner { cwt. . value	1,921 £1,632	2,213 £1,345	2,808 £1,568	2,588 £1,533	1,631 £1,223	1,107 £1,025	1,727 £1,600	912 £917

1 This Table is compiled from the *Statistiques de la Navigation dans les Colonies françaises* and from the *Statistiques du Commerce des Colonies françaises*. Conversion at the rate of 25 francs to £1 and 504 kilogrammes to 1 cwt.

2 : There were 210 of these vessels in 1902, 183 in 1903, 150 in 1904, 101 in 1905, and 105 in 1906. Conversion at the rate of 23 francs to £1, and 304 kilograms to 1 cwt.

TABLE II ¹

IMPORTS, EXPORTS, AND TOTAL VOLUME OF TRADE

		1900.	1901.	1902.	1903.	1904.
		£	£	£	£	£
Imports	. .	367,642	380,903	356,304	332,244	249,227
Exports	. .	538,698	470,103	491,838	382,100	306,416
Total	. . .	906,340	851,006	848,142	714,344	555,643
		1905.	1906.	1907.	1908.	1909.
		£	£	£	£	£
Imports	. .	217,581	208,098	201,277	209,693	206,668
Exports	. .	284,772	283,447	290,237	263,746	349,796
Total	. . .	502,353	491,545	491,514	473,439	556,464
		1910.	1911.	1912.	1913.	1914.
		£	£	£	£	£
Imports	. .	204,545	211,384	207,177	174,270	170,508
Exports	. .	375,779	339,812	240,119	248,072	252,402
Total	. . .	580,324	551,196	447,296	422,342	422,910

ANNUAL AVERAGES

		1900-4.	1905-9.	1910-14.	Mean.
		£	£	£	£
Imports	. .	337,264	208,663	193,577	246,501
Exports	. .	437,831	294,400	291,237	341,156
Total	. .	775,095	503,063	484,814	587,657

¹ Authority: *Statistiques du Commerce des Colonies françaises*. Conversion at the rate of 25 francs to £1.

TABLE III.¹ PRINCIPAL ARTICLES OF EXPORT AND IMPORTSaint-Pierre
and Miquelon]

IMPORTS AND EXPORTS

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EXPORTS.				IMPORTS.			
	Annual Average, 1905-9.	Annual Average, 1910-14.	Per- centage of Total Exports.		Annual Average, 1905-9.	Annual Average, 1910-14.	Per- centage of Total Imports.
Salt cod (<i>Morue verte</i>)	tons 13,892	12,566	13,229	Textiles	£ 22,231	18,070	20,150 10-02
	£ 215,412	224,614	220,013	Wines, spirits, and liquors	£ 19,800	17,587	18,693 9-30
Dried cod (<i>Morue sèche</i>)	tons 1,434	1,348	1,391	Farinaceous substances	cwt. 43,076	31,298	37,187 8-21
	£ 28,943	30,975	29,959	Salt	£ 11,754	15,278	16,516 7-76
Other dried and salt fish	tons 235	168	200	Groceries (tea, sugar, &c.)	tons 11,731	12,843	12,287 7-33
	£ 2,889	2,436	2,662	Machinery and metal goods	£ 15,366	14,115	14,740 6-37
Cods' roes	tons 133	136	134	Coal and coke	£ 8,954	8,625	8,809 4-45
	£ 1,918	1,386	1,652	Cordage, &c.	£ 8,797	8,754	8,775 4-36
Cod-liver oil, &c.	tons 135	82	108	Live-stock	£ 9,156	6,707	7,931 3-95
	£ 1,925	890	1,408	Leather goods and furs	£ 6,665	6,449	6,557 3-26
LoBSTERS and other fishery products	£ 220	109	164	Salt meat, &c.	cwt. 3,119	2,164	2,641 3-11
Total fishery products	£ 251,307	260,410	255,858	Milk, butter, and cheese	£ 6,755	5,767	6,261 1-04
HIDES and other animal products	£ 1,230	1,354	1,292	Animal greases	cwt. 1,414	1,077	1,245 1-03
Other exports	£ 5,821	3,434	4,628	Other animal products	£ 5,926	5,281	5,603 2-78
Total exports excluding trans-shipments	£ 258,358	265,198	261,778	Timber	cwt. 1,121	1,164	1,164 2-05
Trans-shipment trade	36,042	26,039	31,040	Paper and paper goods	£ 1,601	2,571	2,086 1-90
Total exports	294,400	291,237	292,818	Fish	cwt. 1,054	546	800 1-99
				Petrol and paraffin	£ 4,333	3,307	3,820 19-77
				Other imports	£ 1,868	2,147	2,007 100-00
				Total imports	£ 36,852	42,651	201,115
					£ 208,663	193,577	201,115

¹ This Table is compiled from the *Statistiques du Commerce des Colonies françaises*. Conversion at the rate of 25 frs. to £1; 1,015 kilos

to 1 ton; and 50½ kilos to 1 cwt.

* Coal, coke, petrol, paraffin, and building materials, &c., are classified together in the French statistics, the mean import being £12,307

TABLE IV¹
TRADE WITH THE PRINCIPAL COUNTRIES

	EXPORTS. ²			IMPORTS. ³			TOTAL TRADE.	
	Annual Average, 1905-9.	£	Per- centage. 1910-14.	Annual Average, 1905-9.	£	Per- centage. 1910-14.	Mean.	Per- centage.
French Possessions :							£	
France . . .	235,170	233,843	89.59	105,556	94,533	49.76	334,551	72.27
French Colonies . . .	11,669	16,219	5.33	1,047	1,098	.52	15,017	3.25
British Possessions :								
Canada . . .	9,893	14,209	4.60	50,406	46,951	24.20	60,730	13.12
Newfoundland . . .	606	863	.28	6,427	3,509	2.47	5,703	1.24
United Kingdom . . .	—	—	—	—	6,024	1.50	3,012	.65
Other British Countries . . .	—	—	—	418	1,613	.50	1,015	.22
Foreign Countries :								
United States . . .	—	—	—	30,319	27,871	14.47	29,095	6.28
Spain . . .	—	—	—	1,525	3,979	1.37	2,752	.59
Other Countries . . .	1,020	64	.20	12,965	7,999	5.21	11,024	2.38
Total, French Possessions . . .	246,839	250,062	94.92	106,903	95,631	50.28	349,568	75.52
” British Possessions . . .	10,499	15,072	4.88	57,251	58,097	28.67	70,460	15.23
” Foreign Countries . . .	1,020	64	.20	44,806	39,849	21.05	42,871	9.25
Total . . .	258,358	265,198	100.00	208,663	193,577	100.00	462,899	100.00

¹ This Table is compiled from the *Statistiques du Commerce des Colonies françaises*. Conversion at the rate of 25 francs to £1.

² Excluding trans-shipment trade.

³ The imports from France include articles supplied by France, but of other than French origin, to the value of £7,351 in 1905-9, £5,634 in 1910-14; mean, £6,492.

TABLE V¹IMPORT TRADE WITH FRANCE, CANADA, NEWFOUNDLAND,
AND THE UNITED STATES

<i>Country of Origin and Articles Imported.</i>	<i>Annual Average, 1905-9.</i>	<i>Annual Average, 1910-14.</i>	<i>Mean.</i>	<i>Percentage of Total Imports of the Commodity.</i>
	£	£	£	
FRANCE :				
Textiles	20,224	15,844	18,034	89·50
Liquors	17,658	14,586	16,122	86·24
Machinery and metals	8,145	7,960	8,052	62·88
Cordage, &c.	6,836	6,989	6,912	78·77
Colonial produce	4,678	4,537	4,608	31·23
Leather goods and furs	4,038	4,106	4,072	62·10
Animal products	4,222	3,711	3,967	24·77
Paper and paper goods	3,800	3,079	3,439	83·33
Farinaceous substances	1,825	1,482	1,654	10·00
Other imports	34,131	32,239	33,185	—
Total imports	105,557	94,533	100,045	—
CANADA :				
Coal, oil, and building materials	8,784	9,017	8,900	72·32
Animal products	8,051	7,318	7,684	47·97
Live stock	8,326	5,889	7,108	89·61
Farinaceous substances	3,772	6,602	5,187	31·40
Timber	3,746	3,113	3,430	73·45
Colonial produce	3,329	2,813	3,071	20·80
Leather goods and furs	2,387	2,019	2,203	33·60
Other imports	12,011	10,180	11,096	—
Total imports	50,406	46,951	48,679	—
NEWFOUNDLAND :				
Fish	3,086	1,423	2,254	59·00
Other imports	3,341	2,086	2,714	—
Total imports	6,427	3,509	4,968	—
UNITED STATES :				
Farinaceous substances	11,181	6,487	8,834	53·49
Colonial produce	4,346	4,283	4,314	29·26
Animal products	4,472	3,495	3,983	24·87
Coal, oil, and building materials	2,945	2,398	2,671	21·70
Machinery and metals	691	1,845	1,268	9·91
Other imports	6,684	9,363	8,025	—
Total imports	30,319	27,871	29,095	—

¹ This Table is compiled from the *Statistiques du Commerce des Colonies françaises*. Conversion at the rate of 25 frs. to £1.

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GREENLAND.

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1920

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I. GEOGRAPHY PHYSICAL AND POLITICAL

(1) POSITION AND AREA

GREENLAND is a long island, surrounded by a fringe of smaller islands, lying between the Atlantic and Arctic oceans, off the north-east coast of America. It extends from Cape Farewell (on a small island) in $59^{\circ} 46'$ north latitude to Cape Morris Jesup (on the peninsula called Peary Land) in $83^{\circ} 39'$ north latitude. Its average breadth is about 750 miles down to 70° north latitude, where it begins to taper southwards to Cape Farewell.

The total area of Greenland is estimated to be 826,500 square miles, of which about 86 per cent. is covered by an ice-cap.

(2) SURFACE, ICE, COASTS AND ISLANDS

Surface

Practically the whole of Greenland consists of a plateau about 6,000 ft. above sea-level, an elevation which is exclusive of the superincumbent ice-cap (see below). The plateau falls abruptly to the sea, leaving little land at sea-level, and its edge, cut by deep valleys, gives the appearance of lofty mountain ranges varying in height from 3,000 to 7,000 ft. On the east coast around Franz Josef Fjord the coast mountains are said to reach 8,000 to 9,000 ft., and Cape Farewell is 2,150 ft. high.

The only rivers are numerous short streams from the inland ice which run only in summer, when they often cause disastrous floods locally. Hot springs are found, especially in the island of Unartok ($60^{\circ} 30' N.$).

Despite the work of explorers Greenland is still imperfectly known, with the exception of the south-west coastal region.

Inland Ice

The ice-cap covers the whole of the interior of the country, and its area is calculated to be 712,750 square miles. Formed from accumulations of snow, it rises gently from the edges of the plateau near the coasts to a maximum elevation in the interior of 9,000 to 10,000 ft. Its thickness may be 3,000 to 5,000 ft. It completely masks the underlying features of the plateau, and only near its edges, where the ice is thinner, do any peaks (called *nunataks* by the Eskimos) stand above its surface. The surface is in the interior an even plain of snow, but towards the edges it is rugged, broken, and much crevassed. Large glaciers drain the surplus of the ice-cap and descend to the fjords, the largest being the Humboldt Glacier in the north-west, which is about 50 miles wide at its mouth, and the many glaciers in Melville Bay.

The inland ice forms an almost impassable barrier between the east and west coasts, and has been crossed only on seven occasions.

Coasts and Islands

The coasts are deeply indented by fjords, some of which, in the central parts of the east and west coasts, are of considerable length. Scoresby Sound, on the east coast, is 180 miles long, and Danmark Fjord and Independence Sound in the north are likewise of considerable extent, but on account of ice are unnavigable. The only part of the coast-line that is little indented is at Melville Bay, in the north-west.

Off the indented coasts lie numerous islands, most of

which are small, but there are several larger ones, of which the chief is Disko Island, on the west coast (about 70° N.), which has an area of 3,000 sq. miles.

Sea Ice

The sea between Greenland and North Spitsbergen is the chief outlet for the ice of the Arctic Ocean and is generally blocked throughout the year. The ice conditions on the north-east coast are largely dependent on the wind, but north of Scoresby Sound the coast is usually blocked by ice, although in summer there is often a strip of coast-water behind the pack.

Denmark Strait, between Greenland and Iceland, has generally an open passage on the Iceland side at least from May to December, and in August the sea thereabouts is usually clear.

Cape Farewell may be free of ice from August or September to January, but streams of pack often pass south round the cape and continue north even in those months.

The south-west coast is generally free from ice from about April or May to October or November, but conditions vary a good deal. Baffin and Melville Bays, on the north-west, are notorious for their ice, and Smith Sound is obstructed with pack and bergs even in midsummer.

(3) CLIMATE

The climate of the interior is severe, and the temperature low all the year round, but on the coasts it is less severe, especially in the south-western region, where the conditions are less Arctic than the latitude would suggest. Julianehaab has a winter temperature not much lower than that of Norway in the same latitude; its summer temperature, however, is considerably lower,

though exceptional readings of over 70° F. (21° C.) have been recorded.

There are occasional warm (*föhn*) winds, causing a sudden rise of temperature, which may be as much as 40° to 50° F. (22° to 27·5° C.) in twenty-four hours. One result of these winds is that rain may fall even in midwinter, but otherwise most precipitation falls as snow, which occurs even in summer.

The following table gives the mean temperature for the coldest and warmest months, and the total annual precipitation for certain stations in Greenland:

	February.		July.		Total precipitation.	
	°F.	°C.	°F.	°C.	in.	mm.
Ivigut . . .	18	-7·7	49	9·4	46	1,170
Godthaab . . .	14	-10	45	7·2	25	640
Jakobshavn . . .	-2	-19	47	8·3	8·5	216
Upernivik . . .	-9	-22·7	42	5·5	9	230
Angmagsalik . . .	12	-11	43	6·1	—	—
Sabine Is. (one year)	-11	-24	39	4·0	—	—

(4) SANITARY CONDITIONS

Europeans find the climate very healthy, and frost-bite and snow-blindness, both of which are preventable, are the only ills from which they suffer. The Eskimos, on the other hand, though of good physique, suffer much from bronchial troubles, tuberculosis, and rheumatism. Epidemics of influenza occur, and venereal diseases are common in some parts of the west coast. A form of hysteria, possibly connected with the gloom of the long winter night, occasionally occurs among the northern Eskimos. The attack is sudden but short, and has no permanent effect.

(5) RACE AND LANGUAGE

The natives are Eskimos, a people of uncertain racial origin, although it is possible that they are related to the North American Indians. The Eskimo dialect

differs little throughout the tribes in Greenland, and the language is essentially the same from Greenland to Alaska and Siberia. Many of the natives speak Danish.

The Europeans in Greenland are practically all Danes, who reside there as administrators, missionaries, doctors, schoolmasters, and traders. There are a certain number of half-castes, who as a rule show considerable intelligence and are treated as the equals of the Danes.

Foreigners are as far as possible excluded from Danish Greenland, and are only allowed to land in the territory by permission of the Danish Government.

(6) POPULATION

Distribution

By the census of 1911 the population of Danish Greenland was 13,459, of whom 384 were Europeans. The Eskimos are distributed generally along the west coast as far as Melville Bay, the shores of which are uninhabited. The region between Cape York and Humboldt Glacier is occupied by a small tribe numbering about 200, known as the Arctic highlanders, who have few if any relations with the Eskimos of the south and are beyond Danish jurisdiction. Along the whole of the east coast, except in Peary Land, there are numerous signs of former Eskimo occupation, but only at Angmagssalik do Eskimos remain in any considerable number.

Settlements

Eskimo settlements usually exist in places where the ice breaks up early, as such places favour an early resumption of fishing after the winter.

There are about 60 settlements on the west and one

on the east coast, at many of which are Danish *kolonier*. The chief Danish *kolonier* from south to north are as follows: Julianehaab, Frederikshaab, Godthaab (the chief settlement of the southern inspectorate), Sukkertoppen, Holstenborg, Egedesminde, Christianshaab, Jakobshavn, Godhavn or Lively on Disko Island (the capital of the northern inspectorate), Ritenbenk, Umanak, and Upernivik. The most northerly settlement of the civilized Eskimos on the west coast is Tasiusak ($73^{\circ} 25' N.$), some 50 miles north of Upernivik. On the east coast the only *koloni* is Angmagsalik ($65^{\circ} 60' N.$). No settlement contains more than 5 or 6 Danes and 100 to 200 Eskimos, except those near the mines.

Movement

Under Danish rule the population has more than doubled in the last 100 years. In the ten years ending 1911 the population showed an increase of 1,566, or 11.6 per cent. From 1860 to 1911 the increase was 3,579. The birth-rate, some few years ago, was 44 per 1,000 and the death-rate 33 per 1,000, the latter being raised by the number of men who perish in their *kayaks* (skin canoes).

II. POLITICAL HISTORY

CHRONOLOGICAL SUMMARY

- 982 Eric the Red explores Greenland.
- 986 Two Norse colonies founded on west coast.
- 1294 Norwegian royal edict making trade with Greenland
a Crown monopoly.
- 1410 Norwegian settlers left to themselves.
- 1585 Davis finds only Eskimos on coast.
- 1728 Danish settlement at Godthaab.
- 1733 Moravians at Ny Herrnhut.
- 1774 Danish Government undertakes management.
- 1900 Withdrawal of Moravian Mission.

(1) DISCOVERY AND EXPLORATION

IN 982 Eric the Red sailed from Iceland to investigate the land sighted earlier in the century by Gunbjörn, and in 986 founded two colonies on the west coast. It is he who is said to have given the country the name of Greenland, with the object of attracting settlers to it. Subsequently the Norsemen extended their voyages up the coast, certainly up to $72^{\circ} 55' N.$ lat., where a runic inscription has been found at Kingigtorsuak bearing the date 1235, and perhaps to Melville Bay.

The two colonies, Vesterbygd (i. e. Western Settlement) and Österbygd (i. e. Eastern Settlement), established by Eric the Red in the districts of the present towns of Godthaab and Julianehaab, where Norse remains have been found, flourished for a long period, the population increasing to nearly 2,000 with 280 homesteads, a bishop, and four churches. The colonists managed their own affairs, but towards the end of the thirteenth century swore allegiance to the King of

Norway, and the trade was made a Norwegian Crown monopoly.

This was disastrous to the prosperity of a colony depending to a large extent on outside support for the necessities of life. Communication with Greenland was confined to one ship, called *Knarren*, or—as Hakluyt translates it—the *Cog*, and this ship frequently failed to reach its destination for years together. Other circumstances which adversely affected the question of communication were in all probability the ravages of the Black Death in Norway in 1349, the growing influence of the Hanseatic League over Norwegian commerce in the fourteenth century, and the union with Denmark, whereby the seat of government was moved to Copenhagen, which was comparatively uninterested in Norwegian trade. When Ivar Bårdson went to the Western Settlement about 1341, he found no human beings there, and the cattle and sheep which he saw appear to have become wild.

In 1410 the ship which maintained communication with Norway was withdrawn, and the colonists left Greenland or adopted the mode of life of the *Skrælings*, as the Norsemen called the Eskimos, or were murdered by them. At any rate the colonies ceased to exist, and when Davis visited the coast in 1585 he saw Eskimo only.

In Scandinavia, however, the extinction of the Norse colony remained unknown, and it is clear that as late as 1607 the King of Denmark supposed its survival to be in any case probable. 'We do not doubt', he says in his instructions to an expedition organized in that year, 'that they [the inhabitants] understand either Icelandic or Old Norse.' He also gives careful instructions that the explorers shall 'diligently inquire if the aforesaid churches, monasteries, &c., are to be found there'. At the beginning of the sixteenth century,

Archbishop Walkendorff of Trondhjem contemplated the renewal of communication with the Greenland bishopric, and collected all available information bearing on the subject. In the reign of Frederick II of Denmark two or three expeditions were sent out between the years 1568 and 1581, with the intention of restoring the interrupted communications. That these were unsuccessful in effecting a landing was due probably to a mistaken idea that the so-called Eastern Settlement of Eric the Red was to be found on the east coast—then as now practically inaccessible on account of ice—instead of in the neighbourhood of Julianehaab, where in fact it was. In 1605 Christian IV of Denmark sent out an expedition under an English pilot, James Hall, who was probably a relation of Frobisher's pilot, Christopher Hall. In spite of protests from the Danish members of the expedition, Hall brought his ships safely to the west coast of Greenland, which he explored in some detail. Further expeditions for the exploration of the country were sent out by Christian IV in the years immediately following.

To the world at large, however, these Scandinavian enterprises seem to have been unknown, and when the Portuguese, about 1500, came upon Greenland, they described it as 'a point of Asia' and named it Labrador from a *llavrador* or yeoman farmer who was the discoverer. The representation of Greenland in the Portuguese 'Cantino' map of 1502 is so accurate as to make the identification quite certain. When Frobisher, in 1576, sighted the coasts of Greenland, a further element of confusion was introduced, for, being misled by the fictitious map of the Venetian Zeno, the explorer identified the country with an imaginary 'Frisland'. Thus there were at this time three possible names by which Greenland might be described—Labrador, Frisland, and Greenland. The

identification of the spurious Frisland with Greenland led to the transference westwards of the name Labrador, more or less to the region known by that name to-day. But when Frobisher spoke of Labrador, though in fact he was describing either that country or Baffin Land, he thought he was speaking of Greenland, and therefore his principal discoveries in Baffin Land were transferred to Greenland by those who eliminated the mythical Frisland or marked it elsewhere on their maps.

The confusion thus created was so great that when Davis on his first voyage, 1585, sighted Greenland, he treated it as a new discovery and called it the Land of Desolation, though in the account of his later voyages, during which the west coast was explored as far as $72^{\circ} 41'$ north latitude, the country is correctly named.

In 1616 Baffin penetrated as far north as Smith Sound. In the years 1652-4 three expeditions to Greenland were made by a Scandinavian named Danell. In 1818 Sir John Ross skirted the west coast to Melville Bay and Smith Sound. During the renewal of Arctic exploration which followed the loss of Sir John Franklin, Inglefield (1852), and the Americans Kane, Hayes, and Morton (1853-5), Hayes again in 1860-1, and Hall in 1871, explored Kane Basin, Kennedy Channel, and Robeson Channel, advancing as far north as about 82° . Nares followed in 1875-6 and wintered in Polaris Bay, whence Lieut. Beaumont travelled with sledges to the farther side of Sherard Osborn Fjord, while in 1882 Lieut. Lockwood, attached to the Greely expedition, sighted Cape Washington. In 1892, and again in 1895, Lieut. Peary crossed the inland ice from M'Cormick Bay to Independence Sound, which separates the mainland from the large peninsula of Peary Land. In 1900 he skirted the northern coast of this land to Cape Bridgman, and then advanced

south-eastwards down to latitude 83° , thus determining the northern extension of Greenland.

The East Coast.—Except Hudson's Cape Hold-with-Hope, sighted by him in 1607, and the bay visited by Gael Hamke in 1654, points not identified with certainty, it is only within the last 100 years that the east coast has been explored. Dr. Scoresby in 1822 surveyed about 400 miles of coast from Knighton Bay to Gael Hamke's Bay; and in 1823 Clavering and Sabine discovered Shannon Island and the Pendulum Islands. Koldewey and Payer, of the German expedition of 1869, reached as far north as Cape Bismarck in latitude 77° ; while the Mylius Erichsen expedition of 1906–8 linked up these discoveries with those of Peary by traversing the coast from Cape Bismarck to Cape Bridgman. The southern part has been explored by Danes—Graah in 1829–30, Holm and Garde in 1883–5, and Amdrup (1898–90), who travelled northwards to latitude $67^{\circ} 22'$.

The Inland Ice.—Besides Peary's crossing in the north, two explorers have crossed from coast to coast in lower latitudes—Nansen in 1888 from Umivik on the east coast to Godthaab, and the Swiss traveller De Quervain, in 1912, from Ata Sound, north of Jakobshavn, to Angmagsalik. In the same year Rasmussen crossed from the Clements Markham Glacier to Danmark Fjord and Independence Sound; and in 1913 Captain Koch, landing at Danmark Harbour, marched to Lakse Fjord near Upernivik, a distance of 700 miles. The inland ice was also visited by Nordenskiöld in 1870 and again in 1883.

(2) THE DANISH SETTLEMENTS

In 1721 the Danish missionary Hans Egede landed at the mouth of the Godthaab Fjord, and in 1728 settled

permanently at Godthaab. The Moravians followed in 1733 and established themselves at Ny Herrnhut, half a mile from Egede's village; and the two communities gradually extended their sphere of work north and south. In 1734 a monopoly of trade was granted to a private merchant, and in 1750 transferred to a company which was not successful; consequently the Danish Government took over the management in 1774.

III. SOCIAL AND POLITICAL CONDITIONS

(1) RELIGIOUS

THE Moravian missions were withdrawn in 1900,¹ and since then there has been only one Church in Greenland, the Lutheran Church of Denmark, which is supported by grants of £2,000 a year from the Greenland Board of Trade and £880 from the Danish Government. It has churches and schools all over the colony and at Angmagsalik, and a station has been established at Melville Bay. All the Greenland Eskimos, except the Arctic highlanders in the north-west, are nominally Christians of the Lutheran Church.

(2) POLITICAL

The affairs of the colony, both political and commercial, are in the hands of the Royal Greenland Board of Trade (Den Kongelige Grønlandske Handel), a Government department founded in 1774. Its privileges were defined by a Royal Statute dated March 18, 1776, by which, treaties having been made with Great Britain, the United States, and other Powers, the west coast from lat. 60° to 73° N. was closed to foreign ships and Danish, except those of the Danish Government. This regulation was confirmed in the Sailing Directions for Davis Strait of May 8, 1884, where it was expressly stated that the object of this restriction was to prevent

¹ It appears from Trebitsch that a mission station was established at or near Cape York in 1909, and private advices in 1917 speak of this as Moravian (*Geographical Journal*, vol. 1, p. 305), but the facts are not quite certain.

the ruin of the natives through the introduction of infectious diseases, and the importation of spirituous liquors and other such goods. Damaged vessels may, however, enter Greenland ports to make necessary repairs. Strangers, including Danes, unless they are employed in the country, are forbidden to land without special permission from the Danish Government. This is granted only to applicants who have a scientific object, and they must submit previously to a medical examination.

The country is divided into two provinces, North and South Greenland, the dividing line running at latitude $60^{\circ} 40'$, north of the Holstenborg district; and each of these is presided over by an inspector, the one for North Greenland residing at Godhavn on Disko Island, and the other at Godthaab. These provinces are subdivided into districts, the chief towns of which are called *kolonier*, where directors reside who are at the same time the political chiefs of the districts and trade managers. Smaller trade centres are entrusted to native managers.

While the inspectors have absolute control over political and commercial affairs, some of their powers are now delegated to District Councils. In old times it was the custom for the storekeepers of the Board of Trade to assist indigent natives by doles from the Government stores. This practice, however, tended to pauperize the people, and the Councils were therefore established to administer a fund raised by a tax of one-sixth on goods purchased from the natives within each district. Each Council is composed of the missionary of the chief station, officials of the trade and mission, and members elected by the people. The Council meets twice a year; and a needy person can apply for relief through his representative. A distinction is

made between persons whose poverty is due to their own negligence and idleness, and those in distress from circumstances beyond their control. In the spring the surplus is divided among those of the community who have not received any help from the fund. The Council also decides civil cases, apportions inheritances, and tries criminal cases, imposing small fines for the smaller offences, while the more serious crimes are reported to the inspector.

(3) EDUCATIONAL

Almost all the natives can read and write, and besides other elementary subjects they are taught the Danish language, in which, however, few are proficient, most adhering to their own Eskimo tongue with a few Danish words added. At Godthaab there is a seminary where native students are educated for the ministry and as schoolmasters ; they generally go to Denmark to complete their education. In the same town a printing establishment issues a monthly journal in Eskimo, which is distributed gratis ; it has also published a few books. A mission printing-house produces some religious and educational works, but the great majority of these comes from Denmark. A scientific station has been established at Angakudsarvik, near Godhavn, with a library of 3,000 volumes and a laboratory.

IV. ECONOMIC CONDITIONS

(A) MEANS OF COMMUNICATION

(1) INTERNAL

(a) *Sledges and Boats*

THE chief means of communication of the Greenlanders are dog-sledges and boats.

The Greenland dog-sledge is one of the most ingenious of contrivances as regards cheapness and handiness. It is bound together merely by sealskin thongs, which give it elasticity and prevent it from being broken by the rugged surfaces over which it often has to pass. In favourable circumstances, and upon perfectly smooth ice, it is capable of covering sixteen miles in an hour; its average rate of progression is only four or five miles. The team used for a sledge varies from four to twelve dogs, according to the wealth of the owner: 500 lb. may be considered a suitable load for a team of eight. The dogs are fed chiefly upon the offal of the animals killed by their masters, and require very little care.

In North Greenland communication by sledge between the stations generally opens about the middle of January and lasts till late in April. Holstenborg is the most southerly point at which conditions permit of the use of sledges, and in South Greenland there is no communication between the stations from October to April. There is good sledging along the margin of Disko Bay, which greatly facilitates communications, but the bay is not frozen over with sufficient permanence to render sledging at all safe from the Godhavn district, which is situated on the south and west shores of Disko

Island, and that district is therefore extremely isolated during winter.

The Greenlanders have two forms of boat, the *kayak*, or skin canoe, and the *umiak*, or women's boat, but European boats are also used. The *kayak* is fitted out especially for the pursuit of seals and whales, but there are numerous other purposes of daily life for which it is almost as necessary. It measures upwards of 18 ft. in length and about 2 ft. in breadth, and weighs about 55 lb., so that a man on landing can take it in one hand and carry it along with him. It will bear a load of 200 lb., besides the man who sits in it.

The *umiaks* are used for removing the family from one hunting or fishing station to another, carting fuel, fetching the produce of the chase, &c. They are 25 to 37 ft. long, 5 ft. broad, $2\frac{1}{2}$ ft. deep, and quite flat-bottomed. They used always to be rowed by women, but now the rowing is mostly done by men and women, or by men alone; a man always steers. They require to be managed with the greatest care, the stretched skin being liable to be cut by ice or by the sharp edge of a stone when being launched. They can, however, be very quickly and easily repaired. But the perfect familiarity of the natives with this mode of travelling admits of these boats being used to cross fjords crowded with icebergs, when almost no thoroughfare can be discovered. Exposure to the open sea is, however, avoided as far as possible. The largest boats carry about 3 tons; the smaller, which are the more common, only half that weight. As only the framework and thwarts are of wood and the rest consists of a skin covering, a large boat may very well be transported by land, eight or ten men taking it bottom upwards on their backs. Thirty or forty miles is an ordinary day's journey in an *umiak*, but in case of urgency as much as sixty miles may be covered.

Some parts of the coast, for example that between Frederikshaab and Ivigtut, are very dangerous for small boats on account of the unsheltered condition of the shore and the large number of icebergs.

(b) *Posts*

Mails from abroad only arrive by ships which leave Denmark from the end of March to the end of June. Letters are forwarded between the stations by *kayaks*, or in the north in winter by dog-sledges. From Upernivik, the most northerly district of Danish Greenland, the only regular communication with the outside world is by one ship in summer and a single sledge post which comes up from Umanak Fjord in winter.

(2) EXTERNAL

(a) *Ports*

All the fjords are deep and good harbours are numerous, but the best are available only for small vessels. The harbour at *Holstenborg*, on the west coast, is one of the best in Greenland, as there is a beach where ships can run at high tide and undergo repairs when the tide is out. The harbour at *Godthaab*, the capital of South Greenland, is about two miles distant by sea from the settlement, in front of which it is not always safe for vessels to ride at anchor on account of the rapid current, drifting ice, and occasional heavy swells. The harbour at *Frederikshaab* is well sheltered, being surrounded by numerous islands; it is capable of accommodating several vessels. At *Upernivik* the harbour is small, but two or three ships by judicious management might be safely secured. Several large warping rings are let into the rocks for the use of the Danish trader which visits the place annually.

On the east coast there is a good though small harbour on the southern side of Angmagalik Island.

Loading and unloading are easy, except at low water, when the inner part of the harbour is dry. It is visited yearly by a Danish Government vessel.

The Danish settlement and colonies on the west coast of Greenland, which extend from latitudes 60° to 74° 30' north, are closed to all vessels without special permission from the Danish Government, excepting only that water may be obtained at Holstenborg, Godhavn, and Upernivik under certain conditions. Masters of vessels contravening these regulations are liable to have their vessels and cargoes confiscated. Small quantities of coal can generally be obtained at Ivigtut, Arsuk Fjord, and Godhavn, but these supplies cannot be relied on, as the coal-mines on Disko Island are not worked regularly.

(b) Shipping Lines

Communication between Denmark and Greenland is maintained principally by the vessels belonging to the Greenland Company, the head office of which is at Copenhagen. The fleet consisted in 1915 of two steamers, four brigs, three barques, and three smaller vessels. In 1915 Greenland was also visited by twelve vessels belonging to the cryolite mining company.

(B) INDUSTRY

(1) LABOUR

The total population of Greenland in 1911 was 13,459. The local distribution and migration of the inhabitants are determined by the movements of the game and seal.

The natives show considerable capacity for acquiring the rudiments of any manual occupation and adapting it to their own requirements. This is only to be expected when it is considered that the members of

an Eskimo household have to supply by their own labour all their chief necessities, and surmount by their own ingenuity the difficulties met with in travelling over uninhabited land. They are, of course, perfectly fitted for employment as sailors on board the coasting boats, and they have also proved able, as carpenters, coopers, and smiths, to perform all the work required by the trading establishments, though their acquirements are naturally limited when compared with those of European artisans. They generally combine with their chief trade a certain skill in various other occupations, which makes them very useful in such isolated places. They show themselves good bricklayers, glaziers, brewers, bakers, and cooks. They do not take kindly to mining industries, which are chiefly worked by imported labour. A large number of natives are employed by the Royal Greenland Board of Trade (see p. 13) in loading and unloading vessels and transporting goods, in the oil factories, and in carrying the post between the settlements.

(2) AGRICULTURE AND NATURAL PRODUCTS

Vegetation is scanty, and is confined to the coast regions, where it flourishes only in sheltered places. The shortness of summer and the want of soil prevent the cultivation of cereals, but cabbages, turnips, carrots, and onions are grown successfully in the gardens of some of the settlements. Scanty natural pasture occurs in sheltered places. 'Iceland moss' is common on the islands of the south. An attempt to grow potatoes at the southernmost station proved a failure.

In the south-west there are copses of low-growing gnarled birches 8 to 10 ft. high, Arctic willows 5 to 6 ft. high, and stunted alder and juniper bushes. Introduced rowan trees grow in a similar manner in the

south. Bilberries, cowberries, and crowberries ripen, and are collected by natives and Danes. The wood of the birch, alder, and other bushes is used by the Eskimos for fuel. Peat of a fair quality also serves for fuel and for building. Siberian driftwood, brought by the current round Cape Farewell, is found on the south-west coast.

The export of *reindeer* skins was formerly important, and the reindeer hunt used to occupy the greater part of the population during two or three months in the summer, but after 1850 the number of animals was rapidly reduced by the indiscriminate slaughter which followed the introduction of the rifle.

The *fox* (*Vulpes lagopus*) is found in two varieties, commonly known as the blue and white; the skins of these are solely articles of commerce, and are not made use of by the natives themselves. There is a great difference in the value of the two kinds; the wholesale price of blue skins before the war being from £5 to £15, and that of the white from 50s. to £5. These foxes are most numerous by far in the south, but are found in the extreme north. The greatest number ever killed in one year seems to have been 5,000 in 1872. They are decreasing in number.

A certain number of *bears* are killed throughout the country, and 100 skins were exported in 1916.

Other land mammals are the *musk ox*, the *banded lemming* (*Luniculus torquatus*), neither of which are found as far south as the Danish possessions, the *ermine* or *stoat* (*Putorius erminius*), and the *Arctic hare*. The *Arctic wolf* is found on the east, but seldom on the west coast.

The *seafowl* afford profitable hunting to the natives, more especially in winter, when, except for them, they would sometimes have nothing but fish for food. The feathers are an article of trade, and the skins, with

the feathers or down still adhering to them, form an excellent clothing, being at the same time warm and light. Some of the skins, distinguished for their colour and softness, even have a considerable value in the European market. There is a great variety of seabirds, but the *auk* and the *eider-duck* are by far the most numerous. *Ptarmigan* are also found in considerable numbers.

The breeding-places of the eider-duck are limited to certain clusters of islets, which are regularly visited by the natives in June and July in search of eggs and down. The reckless taking of eggs and the general persecution of the bird are no doubt the causes of the decrease in the production of down, which between 1857 and 1877 fell from 5,600 lb. to 2,000 lb. annually.

(3) FISHERIES

(a) *Seal and Whale Hunting*.—This is the most important occupation of the Greenlanders. Both seals and whales are caught from *kayaks* or canoes with harpoons, to which bladders of sealskin are attached by a line, so that the animal cannot sink to the bottom. Both gun and hand harpoons are used. In South Greenland, where the harpoon is seldom employed, the catch is sometimes lost, as the animals with a thinner coat of blubber sink. In the winter the seals are stalked on the ice, and caught in nets let down below the ice.

The flesh and blubber of seals and whales supply the natives with their most nutritious food and with the means for heating and lighting their houses. The sealskins are used for the manufacture of clothes, boots, and tents, and for covering the boats, while the skin of the whale forms a favourite food.

Whale-fishing proper, however—that is, the capture of the ‘right’ whale (*Balaena mysticetus*) or other large species, which used to be carried on from several stations

in Greenland—has now practically ceased, the only whale which is at all plentiful in these seas being the small white whale (*Beluga catodon*). This appears in migration along the coast, chiefly in the spring, as soon as the bay-ice breaks up, and in the autumn before the new ice forms. It measures 12 to 16 ft. in length, and yields about 400 lb. of blubber, and an equal or greater amount of edible parts. The number killed yearly may be estimated at about 600. The narwhal is also taken in small numbers.

There are several varieties of seal, none of which are fur-seals; the principal are as follows:

The *Phoca foetida*, which remains on the coast throughout the year and of which about 51,000 are killed annually. The average weight is about 84 lb., the blubber amounting to about 33 lb.

The *Phoca vitulina*, which is the most common seal of all on the northern coast of Europe, but is much less numerous in Greenland than the last-named variety. It occurs, however, here and there on the coast throughout the winter. The skin is highly valued in Greenland for making clothes. The annual catch is doubtful, but is probably somewhere between one and two thousand.

The *Phoca groenlandica*. This species, which forms the chief object of chase to the European sealing-ships in the Spitsbergen and Newfoundland seas, is migratory, but visits the shores of Greenland during the greater part of the year, the catch being most plentiful in October and November. It is of inestimable importance to the natives on account of its skin, out of which the usual covering of their boats is made. A full-grown seal of this species weighs about 253 lb., the blubber, in winter, amounting to about 80 lb. The annual catch is calculated at 17,500 full-grown and 15,500 half-grown seals.

The bladdernose seal (*Cystophora cristata*) is one of the largest. It is only occasionally found along the greater part of the coast, but visits a very limited tract between latitudes 60° and 61° north in great numbers. It yields about 120 lb. of blubber and 200 lb. of flesh. The annual catch is about 2,000 on an average.

The *ugsuk* or 'thong' seal (*Phoca barbata*) is the largest of the Greenland seals. It occurs only in small numbers and chiefly at the northern and southern extremities of the coast; but it is of the utmost importance to the natives, as its skin is the only one considered suitable for making the hunting-lines of the 'kayakers', whose safety depends on the line running out easily without being liable to the slightest entanglement. The annual catch hardly amounts to a thousand.

*Walrus*es are at times found in considerable numbers in the tract between latitudes 66° and 68° north; elsewhere they are rarely met with. The number killed yearly can hardly exceed 200.

The total average number of sea animals killed yearly is 89,000 seals and 700 white whales and narwhals. This provides on an average 2 lb. of meat a day per inhabitant, but it is not of course equally distributed throughout the year or throughout the country, and there are sometimes periods of great scarcity.

(b) *Fishing*.—The capture of fish proper has always been a subordinate trade with the Greenlanders, when they are in a prosperous condition, but the advantages derived from it have nevertheless been of importance to their households. In some of the northern waters fish seem to be very scarce, but in the greater part of Danish Greenland they are plentiful and contribute essentially to the maintenance of the inhabitants.

Sharks (*Somniosus microcephalus*) alone have any commercial value. They are caught with a line and hook, especially through holes in the ice, and vary in

length from 6 to 16 ft. The liver, which is the only part retained, weighs between 20 and 60 lb., in rare instances much more. It is used for the production of the finer types of oil. The flesh is considered unwholesome and is only used in times of the greatest necessity. The number annually captured varies from ten to twenty thousand.

Codfish make their appearance after June 20 on the fishing-grounds, which are situated between latitudes 64° and 68° north at a distance of 60 miles from the shore; in July and August they resort to the inlets up to about latitude 70° north. The occurrence of codfish is peculiarly variable, the catch in some years proving abundant and in others a total failure. The average number annually caught may be estimated at somewhere about 200,000.

Salmon-trout are found in the lakes and streams and at their outlets along the whole coast.

The *larger halibut* occurs on the banks as well as in different places outside the islands up to latitude 70° N. The capture of this fish has been the object of commercial speculation; foreign ships, chiefly American, have been engaged in it apparently with better success than in the cod-fishery.

Other fish found are the *smaller halibut*, the *red fish* (*Sebastes norvegicus*), the *nepisak* (*Cyclopterus lumpus*), the *capelin*, and several other kinds, inferior in quality, but of great value to the inhabitants on account of their being widespread and generally obtainable at a season when other provisions are most scanty. Various forms of shell-fish are also collected for food.

(4) MINERALS

Cryolite is the only mineral that has become an article of trade and given rise to commercial enterprise of any importance connected with mining in Greenland.

It occurs at Ivigtut in the Frederikshaab district, which is almost the only place in the world where it has been found. It is fortunately situated sufficiently close to the shore to make shipment easy. The cryolite bed is a monopoly of the Danish Government and is farmed out, thus proving a valuable source of revenue.

The total area of the cryolite bed before it was worked may be estimated at 400 ft. in length and from 50 to 100 ft. in breadth; the depth has not yet been ascertained, but, as far as is known, amounts at least to 100 ft. Within these confines the cryolite forms the principal part of the rock, being almost pure for a horizontal extent of several hundred or perhaps a thousand square feet, but elsewhere accompanied by other minerals, including metallic ores such as copper, argentiferous lead, zinc, and tin. Attempts have been made to work these metallic ores, but they have been found to be too scantily spread to offer any promise of gain, so that as yet cryolite is the only article of trade produced from the mine.

The output of ore from the mine in recent years has been as follows :

- 1912. 9,945 metric tons, of which 1,904 tons went to the United States, the rest to Denmark.
- 1913. 10,200 metric tons, of which 1,900 tons went to the United States, the rest to Denmark.
- 1914. 11,300 metric tons, of which 4,000 tons went to the United States, the rest to Denmark.

The whole output of the Greenland mine, with the exception of the exports to the United States, goes to Copenhagen in the first instance. In 1916 the imports into Denmark were 10,049 metric tons. Little cryolite, if any, is used in Denmark, but the concessionaire of the Greenland deposits, the Øresund Chemical Factory, of Copenhagen, scours the raw cryolite and re-exports it. In 1912 the re-exports amounted to 7,095 tons. In

1915, owing to war orders, they rose to 10,000 tons. The export for the year ending June 30, 1917, was estimated by the manager of the factory as likely to amount to 18,600 tons. Germany, Austria-Hungary, Switzerland, Norway, France, Great Britain, and Russia are the principal customers.

The pre-war demand of the several customers for washed cryolite is illustrated by the following figures of the export from Denmark in 1912 :

	<i>Metric Tons.</i>
Germany	1,565
Switzerland	1,193
France	929
Austria	881
United Kingdom	851
Russia	560

The exports in 1915 were distributed as follows :

	<i>Metric Tons.</i>
Germany and Austria	4,500
Switzerland	1,000
Allies and Norway	4,500

The estimated exports for the year ending June 30, 1917, were :

	<i>Metric Tons.</i>
Germany and Austria	5,900
Switzerland	2,100
Allies and Norway	10,600

Cryolite is primarily used as a solvent for alumina in the electrolytic production of aluminium from bauxite. If bauxite were unobtainable, aluminium could be derived from cryolite, but the cost of production would be high—about eight to ten times that of producing from bauxite. Cryolite is also used in the manufacture of opaque glasses and enamels.

Graphite is widely distributed, and occurs in particular abundance near Upernivik, but the production is insignificant. The sole concessionaire, the Greenland

Minedrifts Company, imported into Denmark about 400 tons during the first two years of the war. One-fifth of this amount was relatively good in quality, containing about 70 per cent. of pure graphite; the remainder had a graphite content of as little as 20 per cent. and was only suitable for making crucibles. On August 24, 1916, the *Ribe Stifts-Tidende* published a report that new deposits had been discovered at Anisok, and that a cargo of 800 tons had already reached Denmark from that source. But the total import of graphite from all sources into Denmark during 1916 only amounted to 276 tons, and it has yet to be learnt whether the Anisok mine is of any real value.

The *steatite* or *pot-stone*, used by the natives for making lamps and other domestic ware, no doubt comprises several different minerals, all of which are soft enough to be cut with an ordinary knife. This mineral is fairly common, but only in certain localities does it form seams of sufficient thickness and coherency to be of use. Nowadays the manufacture of these utensils is greatly on the decline. The green translucent steatite has been employed for various fancy articles for Europeans, and it might form the basis of a profitable domestic industry, but the dust produced by cutting and filing the mineral is injurious to health.

Native *iron* in nodules has been found at Ovifak, on Disko Island, and elsewhere on the west coast, notably at Cape York, where the natives make use of it. These nodules are probably of meteoric origin.¹ The largest of them, which is said to have weighed 90 tons, was removed by Commander Peary to America.

¹ It has, however, been shown by the Danish geologist Steenstrup that other masses of iron found in northern Greenland are not meteoric.

Coal is found in various districts on the west coast, but it is of rather poor quality and has little coherency. The heating power of Greenland coal is estimated at only half that of English coal, mixed with which it works well in every respect, producing little ash and smoke. Since 1908 the coal-mines at Karsuasak have produced about 1,500 tons of coal, which is only suitable for home consumption. The natives, however, generally use wood, peat, and seal and whale oil.

The cretaceous formation on the west coast of Greenland contains the richest deposits of fossil plants known in the world—including 335 species of ferns, cycads, conifers, magnolias, poplars, oaks, &c. A large quantity of this vegetation has been transformed into *lignite*.

Metallic ores have hitherto proved rather scanty in Greenland. In 1850 a licence was given to a company for exploring and working mines in the country. Six expeditions were sent out before 1855, from which period the explorations on behalf of the company were continued by an English scientific traveller until 1860. Since that time the company seems to have abandoned its plans. *Copper* ore has been traced in several places and worked intermittently, but the production is insignificant. Traces of *lead*, *tin*, and *zinc* ore in other parts of Greenland are even more scanty.

Tourmaline is found in many localities. *Talc* and *asbestos*, both of good quality, occur, and could, it is said, be turned to economic account.

A large number of rare minerals have been discovered. According to Professors Ussing and Bøggild twenty-one minerals previously unknown to science, and twenty hitherto undiscovered in Greenland, have been found there since 1876. Among the latter are andalusite, cyanite, gold, manganese spar, monazite, and rutile.

(5) MANUFACTURES

The manufactures of the natives are confined to domestic industries. A man makes his own boat or *kayak*, with all the appertaining implements; the women build up the house walls, cut up the seals and prepare their skins, help to unload the boats, row in the *umiaks*, sew together the sealskins to cover the boats, and make all the clothing for themselves, the children, and the men.

No mechanical industry, handicraft, or commerce whatever has been developed except in the service of the Europeans. For this service young people have been trained up partly in Greenland and partly by spending a couple of years in Denmark. A kind of waterproof sealskin clothing is the only manufactured article sold to the Royal Greenland Board of Trade (see below, and p. 13 above).

(C) COMMERCE

The entire trade of Greenland is a Danish Government monopoly, and with the exception of the cryolite, is in the hands of the Royal Greenland Board of Trade, a Government department founded in 1774.

For purposes of trade as well as of Government, the west coast up to latitude 74° 30' north is divided into two inspectorates, the southern extending to 67° 40' north, the other comprising the rest of the country. Each of these inspectorates, of which the respective capitals are Godthaab and Godhavn, is divided into districts, having in addition to the chief settlement or *koloni* several outlying posts and Eskimo hunting-stations. The trade is centred in the *kolonier*, which are visited annually by one or two Government vessels. The chief trading centres in the southern inspectorate are Julianehaab, Frederikshaab, Godthaab,

Sukkertoppen, and Holstenborg; in the northern, Egedesminde, Christianshaab, Jakobshavn, Godhavn, formerly an important whaling centre, Ritenbenk, Umanak, and Upernivik. From the Eskimo hunting and fishing stations blubber is the chief article received, and is forwarded in casks to the *koloni*, where it is boiled into oil and prepared for despatch to Copenhagen. About 30,000 sealskins, 11,000 barrels of blubber, chiefly seal, and about 3,800 barrels of sharks' livers are bought annually from the natives, also 1,500 white and blue fox-skins, a few bearskins, and a little eiderdown. The catch of white whales and narwhals has fallen off so considerably that it is now of no importance, and the quality of the fox-skins has deteriorated. Hardly any reindeer skins are now obtained.

There is only one trading station on the east coast, at Angmagsalik, which was established in 1894, and where about 1,000 sealskins and small numbers of bear and fox-skins are purchased yearly.

The prices to be paid for European and native products are fixed annually. Out of payment five-sixths is given to the sellers and one-sixth is made over to a public fund maintained for the purposes of charity, public works, and provision against emergencies. The prices paid in Greenland for the products of the country are about 22 per cent. of their value on the European market.

(a) Imports

Imports from Europe are sold at low prices, hunting and fishing implements at cost price, bread and some other necessities at about their cost and freightage. It is forbidden to import spirits except in small and strictly limited quantities for the use of the Danes resident in Greenland. At Angmagsalik coffee and

bread are also prohibited, lest the Eskimos should become accustomed to luxuries which they may not always be able to procure. Here, too, blubber is not bought from the natives, who need it for home consumption in the winter. At the Government stores the Greenlanders can buy bread, flour, sugar, salted butter, tobacco, and coffee, of which they are extremely fond. Dried figs, common chocolate, and sugar-candy are also on sale. In addition to the Government goods the natives are allowed to order goods other than the prohibited articles direct from private dealers on paying freight for them at stated rates. The imports into Greenland under the Royal Greenland Board of Trade are stated to have amounted in 1914 to 520,689 *kroner* (£28,930).¹

Figures of values of the chief imports for the years 1904-5, 1910 and 1914 are given in the Appendix (Table I).

(b) Exports

The chief articles of export may be summarized as including seal-oil, fish products, fox-, bird-, and bear-skins, eiderdown, and a certain quantity of worked skins. The value of the exports under the monopoly was, in 1914, 955,420 *kroner* (£53,000).¹

The Danish Government expected that the exports for 1917 would show a very considerable increase on the previous years, particularly in the case of seal and shark-liver oil and fox-skins. This increase can only

¹ These figures represent only the trade under the Royal Greenland Board of Trade monopoly, and do not include private trading or the mineral production. The total value of the exports from Denmark to Greenland in 1914 is stated in the *Statistik Aarbog* for 1915 to have been 859,000 *kroner* (£47,722), and of the imports into Denmark from Greenland 1,576,000 *kroner* (£87,555), including minerals to the value of 738,000 *kroner* (£41,000). A certain amount of cryolite was also exported to America.

be temporary, due to the exceptional prices which these articles have been realizing during the war. The trade of Greenland has, on the whole, much decreased in recent years.

Figures of values of the chief exports for the years 1904-5, 1910, and 1914 are given in the Appendix (Table II).

(D) FINANCE

Budget and taxes are terms which do not apply to Greenland. The country is entirely in the hands of the Royal Greenland Board of Trade, which is conducted on the lines of a commercial company, except that being a Government department it can carry on at a loss, drawing on the Danish Exchequer to make good the deficit. The difference between the prices paid to the natives and those the goods would fetch in an open market is virtually a tax, the proceeds of which are spent in the administration. The only direct impost is that for the benefit of the public fund mentioned on page 31. The principal source of revenue is the cryolite royalty. The figures for the revenue and expenditure are not published regularly. The deficits appear in the Danish Budget.

It was stated in 1905 that the trade monopoly and the mission together cost the Government about £11,000 annually, the mission receiving a yearly grant of £2,000 from the trading revenue, besides a contribution of £880 from the State. Though this was partly covered by the royalties from the cryolite mine, there was a yearly deficit of about £6,000, which was made good by the Danish Exchequer.

The receipts and expenditure for the years 1912-13, 1913-14, and 1914-15 were as follows: ¹

¹ *Statistik Aarbog*, 1915. These figures are approximate only, 18 *kroner* being reckoned to £1.

	1912-13.	1913-14.	1914-15.
	£	£	£
Receipts	64,478	67,777	102,321
Including royalties	6,548	6,622	32,980
Expenditure	73,658	86,948	82,781
Including church and schools	9,099	9,259	10,482

(E) GENERAL REMARKS

There is little to be added to what has already been said on the subject of Greenland. The present relation of the country to Denmark is supported more by motives of humanity than by hope of profit, and the regulations of the Government have chiefly in view the protection of the native population. The prospect of any marked commercial or social improvement is not encouraging. The capture of the 'right' whale has almost entirely ceased, while the reindeer have so decreased that there are scarcely enough to supply the wants of the natives, and the eider-ducks are also much diminished in number. Cryolite is the only article of any great commercial value produced or likely to be produced.

Greenland is a Danish 'reservation'. No travellers are allowed to visit the country without special permission from the Danish Government, and this is very rarely given.

APPENDIX

TABLE I

VALUE OF IMPORTS INTO GREENLAND, 1904-5, 1910, 1914¹

<i>Articles.</i>	1904-5.	1910.	1914.
	<i>Kroner.</i>	<i>Kroner.</i>	<i>Kroner.</i>
Agricultural products and groceries	148,406	226,464	213,686
Firearms, utensils	20,148	33,876	23,165
Stuffs	63,508	86,081	86,275
Cordage	13,845	14,348	16,807
Tobacco	29,126	32,004	27,009
Tools	12,967	13,853	12,434
Woods, timber, &c.	45,718	48,343	51,745
Oil, &c.	13,126	21,165	12,238
Barrels	79,569	66,900	64,202
Soap, candles, &c.	19,020	7,911	2,637
Various	7,533	18,145	10,491
	<u>452,966</u>	<u>569,090</u>	<u>520,689</u>

TABLE II

VALUE OF EXPORTS FROM GREENLAND, 1904-5, 1910, 1914¹

<i>Articles.</i>	1904-5.	1910.	1914.
	<i>Kroner.</i>	<i>Kroner.</i>	<i>Kroner.</i>
Seal and other oil	483,417	378,000	582,150
Sealskins	95,107	58,000	113,400
Blue fox-skins	122,284	102,000	49,700
White fox-skins	20,177	52,900	15,400
Bearskins	25,025	25,500	8,235
Shark-skins	—	—	9,300
Eiderdown	3,080	5,000	2,570
Feathers	13,270	11,100	14,850
Salt fish	49,082	75,000	119,170
Various	16,152	19,000	40,645
	<u>827,594</u>	<u>726,500</u>	<u>955,420</u>

¹ Authority: *Statistik Aarbog*. These figures refer only to the trade carried on by the Royal Greenland Board of Trade.

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I. GEOGRAPHY PHYSICAL AND POLITICAL

(1) POSITION AND FRONTIERS

THE Colony of British Honduras extends (including islands) between latitude $15^{\circ} 53'$ and $18^{\circ} 30'$ north and longitude $87^{\circ} 28'$ and $89^{\circ} 16'$ west. The estimated area is 8,598 square miles, including 212 square miles of cays (islands) off the coast, a large number of which are mangrove swamps without any soil. Its greatest length is about 180 miles, and its greatest width 57 miles. The Colony marches with Mexico and Guatemala, but at no point touches the Republic of Honduras, despite the identity of name.

On the east the Colony faces the Gulf of Honduras in the Caribbean Sea. On the south the boundary follows the River Sarstoon from its mouth as far as the rapids of Gracias-à-Dios. Here it turns slightly east of north, and runs in a straight line till, near Benque Viejo, in about $17^{\circ} 4'$ north latitude, it meets the meridian of $89^{\circ} 9'$ west longitude. The further course of the western boundary is undefined, but approximately follows the meridian as far as the Blue Creek (Rio Azul), a tributary of the River Hondo. It then follows the Hondo to its mouth in Chetumal Bay. On the other side of the bay the sea-boundary passes through the Boca Bacalar, thus giving Ambergris Cay to Honduras.

(2) SURFACE, COAST, ISLANDS, AND RIVER SYSTEM

Surface

British Honduras falls naturally into two divisions, of which the northern is nearly flat, with a slight incline from the western frontier to the sea, while the southern contains mountain ranges. The chief of

these is the Cockscomb range, which is characterized by very sharp volcanic cones of jagged outline, the highest being Victoria Peak (3,700 ft.). Beyond the Cockscomb Mountains is the Alexandra range. Nearer the sea are ranges of lesser elevation, including the Sibun and Manatee hills in Belize district, and the Seven Hills (470 ft.), which are south of the Deep River.

The river valleys are usually separated from one another by tracts of arid, sandy land with poor soil and coarse grass, called 'pine ridges' from the characteristic red pines found in patches upon them. Somewhat more fertile, though partaking of the same general characteristics, are the so-called 'broken ridges', while the alluvial soil of the river valleys is known as 'cohune ridges' from the prevalent growth of cohune palms. These 'ridges' support a luxuriant growth of all manner of tropical vegetation, and altogether constitute about two-fifths of the soil of the country. Farther inland are elevated savannahs and open grassy country with a scattered growth of oak-trees, but this part is largely uninhabited.

Most of the shore and the lower courses of the numerous rivers are fringed with low and swampy land, and along the river banks stretch impenetrable mangrove swamps, above which the land becomes firmer, being clothed with mahogany and other great trees.

Coast and Islands

The coast is as a rule low, flat, and densely wooded. It is broken by many river mouths, and in some parts short passages communicate with lagoons of considerable length, the chief of which are Revenge lagoon, New River lagoon, and Placentia lagoon. Between Negro Point and the mouth of Monkey River the coast is more elevated and is fronted by a beach.

The whole coast is fringed by a series of small, low islands called *cays*, resembling one another so much that navigation is sometimes attended with very great danger. Some of these cays form extensive reefs. The most important are the Turneffe Islands, a large cluster of mangrove islands on a barrier reef, 30 miles in length and from 4 to 7 broad, which are so closely grouped as to give the appearance of one flat island. There are, however, openings into lagoons with 4 to 8 ft. of water. Ambergris Cay to the east of the entrance to Chetumal Bay is 19 miles long, and from 2 to 4 broad. It is low and swampy and separated from the coast to the north by a narrow boat channel. St. George's Cay, $7\frac{1}{2}$ miles north-east of Belize, is a health resort, and others of the smaller cays, e. g. Weewee Cay and Garbutt Cay, are inhabited.

The whole belt of cays constitutes an effective barrier to the shore, and provides a stretch of calm water between the islands and the mainland. The narrowest part of this channel is between Bugle Cay and Potts Shoal. There is no regular tide along the coast.

River System

Along the whole coast is a series of streams, flowing from the Cockscomb Mountains, and towards the south from the Blue Mountains of Guatemala. The following are the most important, proceeding from north to south. The Hondo, which is the northern boundary of the colony, flows from south-west to north-east. The New River, with a parallel course, flows through a considerable lagoon, and near others; it is a dull sluggish stream. The Belize (or Old River) has a tortuous course of more than 150 miles, with a depth of 6 to 9 ft. and an average width of 140 ft. The Sibun flows through a fertile hilly district, which is studded with plantations. The Manatee is narrower and has

the most dangerous bar in the Colony, and the Mullins River is very deep and slow. North Stann¹ Creek is about 35 miles long. The Sittie is difficult to navigate because of rapids, and South Stann Creek is obstructed by rocks and boulders. The Monkey River is deep and narrow for some 12 miles above its mouth; the Deep River has a wide and deep mouth, and the Sarstoon River, which forms the southern boundary, is also in part navigable. All these rivers have bars at their mouths, and their channels constantly change.

(3) CLIMATE

Although British Honduras lies entirely within the tropics, the climate is only sub-tropical. It is tempered by sea-breezes, and the trade-wind blows with hardly any interruption for 8 or 9 months in the year. The dry months are from February to May; the rainiest season is from September to November.

The temperature differs considerably in various localities and according to different altitudes. South Stann Creek has a much pleasanter and cooler climate than Belize, while the highlands of the interior are said to have a climate suitable for Europeans. The shade temperature of Belize averages from 75° F. to 85° F. (24°–29° C.). The mean temperature during five years' observations was 79° F. (26° C.). During these years the monthly mean ranged from 82° F. (28° C.) in August to 75° F. (24° C.) in January. Between 1888 and 1891 the maximum temperature was 92° F. (33° C.), the minimum 56° F. (13° C.).

The rainfall varies to an extraordinary extent. Between 1906 and 1915 the average rainfall was 85.16 in. (216.3 cm.), the maximum being 130.93 in. (332.5 cm.) in 1911 and the minimum 63.76 in. (161.9 cm.) in 1910. Of these years 1907 had the smallest number

¹ The name is erroneously given as Staun on several maps.

of rainy days, 80; 1913 had the largest, 167. But in 1861, 153 inches (388.16 cm.) fell in /67 /days, while in 1867 there were only 26 inches (66 cm.) in the year.

The prevailing winds from January till the end of September range from south-east to east, and are succeeded by north, north-east, and north-west winds. North winds occur mostly in November and December, and sometimes as late as the end of February; they usually bring fine cool weather, but do not blow south of Placentia Point. The weather is usually more or less cloudy throughout the year.

(4) SANITARY CONDITIONS

The health of the Colony is better than might be expected. The chief ailments affecting Europeans are malarial fever and liver affections, but these are generally very mild. The climate is usually good for phthisis, but bad for rheumatism, and tropical diseases such as cholera and yellow fever have occurred sporadically. Malaria is the principal cause of death. Leishmaniasis and a form of myasis locally known as screw-worm disease, which invades the brain through the nostrils and generally proves fatal, are also found.

Ankylostomiasis is frequent among the Indian population of the Toledo district and at Orange Walk, and the natives also suffer from an affection called *cacaobay*¹, which affects the hands, feet, and joints, but from which persons of cleanly habits are exempt.

(5) RACE AND LANGUAGE

There are six chief elements in the population. (1) The *Moya Indians*, representing the aboriginal inhabitants, live chiefly in forest villages to the west and north, away from the sea-coast. (2) The *European*

¹ *Cacaobay* is the native name for leprosy, but it probably includes several diseases diagnosed as non-leprous.

element is descended from the English buccaneers of the seventeenth century, reinforced by Scotch and German mercantile elements, with some mixture of Spanish from the neighbouring republics, and a limited number of immigrants from the Southern States of America. There is also a settlement of German planters in Stann Creek. (3) The *Belize Creoles*, a numerous section of the population, are descended from West African negroes who were slaves in the West Indies. (4) The *Caribs* are not pure bred, but of mixed Carib and negro blood. They were brought from St. Vincent in the eighteenth century, and live in the southern districts, chiefly in coast villages. (5) Intermingled with the Caribs in the south is a mixed *Spanish-Indian* population (known as 'Spaniards'), whose Indian blood is distinct from that of the Moyas. They include Waikuas, who have an element of African blood; Ladinos, who are a blend of European and Indian; and Mosquitos from Guatemala and Honduras. With them should be grouped the Mulattos of mixed European and negro blood, and the Sambos, a limited race, who are a cross between Indian and negro. (6) In the north and in various places as far south as Belize are found not only 'Spaniards' but *Yucatecans*, refugees driven from Yucatan in 1848 by the native Indians.

The languages spoken in the Colony are Spanish, English, and Carib.

(6) POPULATION

Distribution

At the last census (1911) the population numbered 40,458. The estimated population at the end of 1916 was 42,323. The density is about 4.7 per square mile. About two-thirds of the population inhabit the Belize and northern districts; the inhabitants of Belize itself number over a quarter of the total. The southern part

of the Colony is very sparsely peopled, and considerable tracts of the interior are uninhabited.

The white population amounts to but a few hundreds. The English do not as a rule make a permanent habitation in the Colony; the Americans appear more ready to settle.

Towns and Villages

The chief towns of British Honduras are Belize, Corosal (or Corozal), Orange Walk, Cayo, Stann Creek (on the North Stann), and Punta Gorda. These are the respective capitals of the six districts into which the Colony is divided.

Belize (population, 10,478¹) is the capital of the country, and the whole Colony is sometimes called by its name. It lies on both banks of the Belize River, which is there spanned by a bridge. The town is one of the cleanest and brightest in the West Indies.

Corosal (population 1,696) is on the west side of Rowley Bight, near the mouth of New River. It is now, properly speaking, an Indian town. There are several sugar plantations in its neighbourhood.

Orange Walk (population 1,244) is on the west bank of New River; Cayo (population 421) stands in a pleasant and healthy site below Garbutt's Fall on the Belize; Stann Creek (population 2,459) lies at the mouth of North Stann Creek; and Punta Gorda (population 706) is a Carib settlement in the south of the Colony. At the last-mentioned place there is also a settlement of Americans, chiefly engaged in planting sugar-cane.

Movement

The population has increased from 27,452 in 1881 to 42,323 in 1916. The death-rate in 1916 was 26.3 and the birth-rate 39 per 1,000.

¹ The figures for Belize are those of 1911; for the other towns those of 1904.

II. POLITICAL HISTORY

CHRONOLOGICAL SUMMARY

- 1650 (*circa*). First British connexion with Yucatan coast.
- 1670. First Anglo-Spanish treaty affecting British wood-cutters.
- 1713. Treaty of 1670 confirmed by Treaty of Utrecht.
- 1763. Treaty of Paris.
- 1765. Beginning of recognized self-government among the settlers.
- 1783. Treaty of Versailles.
- 1786. Convention of London. Government Superintendent appointed.
- 1798. Defeat of the Spaniards and establishment of the settlement in its own right.
- 1853. A Colonial Legislature constituted with an Elected Assembly.
- 1859-60. Great Britain gives up the Bay Islands and the Mosquito Coast to the Republics of Honduras and Nicaragua.
- 1862. British Honduras declared a Colony under the Governor of Jamaica.
- 1870. British Honduras constituted a Crown Colony.
- 1884. British Honduras separated from Jamaica.

(1) *Dealings with Spain*

THE Colony of British Honduras owes its origin to the British logwood cutters who frequented the coast from the middle of the seventeenth century. Under a treaty of 1670 between Spain and England, the former covenanted that the latter should

‘keep and always possess in full right of sovereignty . . . all the lands, countries, islands, colonies, and other places, be they what they will, lying and situate in the West Indies or in any part of America, which the said King of Great Britain and his subjects now hold and possess’.

The wood-cutters contended that, as they had enjoyed before this time

‘an uninterrupted liberty of cutting logwood in the Laguna

de Terminos and other places not inhabited by Spaniards in the province of Yucatan either through right, sufferance, or indulgence’,

the provisions of the treaty applied, and established a right, to the Laguna de Terminos and the parts adjacent, those places at the time of the treaty being, and for some years before having been, actually in the possession of British subjects.

The Peace of Utrecht (1713) made no change, merely confirming the previous treaty. The Spaniards, however, had never recognized the British contention; and about 1717 the settlement at Laguna de Terminos was broken up by them, the wood-cutters and traders retiring to Belize and the Mosquito Coast. The wood-cutters, now known as the ‘Baymen’, gradually concentrated themselves on the Belize River, where they formed a practically independent community under the nominal authority of the Jamaica Government.

Article XVII of the Treaty of Paris (1763), between Great Britain and Spain, was in effect a compromise between the two claims. It ran as follows:—

‘His Britannic Majesty shall cause to be demolished all the fortifications which his subjects shall have erected in the Bay of Honduras and other places of the territory of Spain in that part of the world, four months after the ratification of the present treaty; and his Catholic Majesty shall not permit his Britannic Majesty’s subjects or their workmen to be disturbed or molested, under any pretence whatsoever, in the said places, in the occupation of cutting, loading, and carrying away logwood; and for this purpose they may build without hindrance, and occupy without interruption, the houses and magazines which are necessary for them, for their families and for their effects.’

Article VI of the Treaty of Versailles (1783) affirmed that,

‘The intention of the two high contracting parties being to prevent, as much as possible, all the causes of complaint and misunderstanding heretofore occasioned by the cutting of wood for dyeing, or logwood, and several English settlements

having been formed and extended, under that pretence, upon the Spanish continent, it is expressly agreed that His Britannic Majesty's subjects shall have the right of cutting, loading, and carrying away logwood in the district lying between the rivers Wallis or Bellize and Rio-Hondo'.

At the same time, these stipulations were not to be considered as derogating in any wise from Spanish rights of sovereignty.

By the Convention of London of July 1786, the boundaries of the settlement were extended to the Sibun river, and more extensive rights with regard to wood-cutting and the collection of natural products were given to the settlers. Moreover the occupation of St. George's Cay by the Baymen was recognized. At the same time all the political restrictions of the Treaty of 1783 were maintained. The inhabitants were warned against 'meditating any more extensive settlements or the formation of any system of government, either military or civil, further than such regulations as Their Britannic and Catholic Majesties may hereafter judge proper to establish for maintaining peace and good order amongst their respective subjects'.

(2) *Extinction of Spanish Claims*

In 1798 a determined attempt by the Spaniards to put an end to the settlement at Belize met with complete failure. They were beaten by the Baymen with the help of a British ship; and from that date British Honduras no longer existed on sufferance, but became a British Colony in its own right. Hitherto the relations of the settlers with the British Government had been somewhat confused. They had practically governed themselves, electing their own magistrates; and their practice had been recognized in 1765 by the British Government. In 1786 the appointment by the Government of a Superintendent, the notorious Colonel Despard, led to disputes and trouble between the old and the new settlers. After a short interval, from 1797 onwards, there was always a representative of the

British Government at Belize; but the settlers still held their public meetings or general assemblies, and elected their magistrates down to about 1830. In 1853 the legislature was defined by Ordinance to consist of the Superintendent and a Legislative Assembly, of which eighteen members were elected and three nominated. In 1862 the settlement was formally declared to be a Colony, the Governor of which was the Governor of Jamaica, a Lieutenant-Governor being substituted for the Superintendent. At the end of 1870 popular representation was abolished, and British Honduras became a Crown Colony. In 1884 it was wholly severed from Jamaica.

In spite of the increased importance of the Bay settlement, no attempt was made by the British Government, in any later treaty with Spain, to give direct expression to the British claim; it being assumed that a state of war had put an end to the previous treaties.

(3) *Relations with Central America*

During the years that followed Waterloo, as the Spanish power grew weaker in Central America and Spanish Commissioners no longer visited the region, British settlement gradually advanced south of the Sibun River till it reached the Sarstoon. With the cessation of Spanish rule over Central America the situation increased in difficulty. The relations between the Belize settlement and the new Republics became strained; and the predominant position of the United States with regard to Central American questions further complicated the situation.

Consideration has here been confined to the case of British Honduras; but it must be remembered that the Bay Islands, situated to the south-east of Belize, off the north coast of the Republic of Honduras, as well

as the Mosquito Coast farther south, were also claimed as being under British sovereignty or British protection. The Bay Islands (Ruatan, Bonacca, &c.) were erected into a British Colony by Royal Warrant of March 20, 1852. With regard to the Mosquito Coast, the question at issue was whether there had been a Mosquito kingdom independent of the Spanish power, the protection of the Indians demanding that the British claim should be enforced.

(4) *Relations with the United States*

It was when affairs were in this tangled position that a new factor appeared in the case in the proposal for an inter-oceanic canal. From about 1840 onwards the Americans maintained that the principle of the Monroe doctrine applied to Central America; and it was undesirable, from their point of view, that Great Britain should possess a grip on one end of the Isthmus of Nicaragua. The British as well as the American agents on the spot were busy endeavouring to make good their respective claims; and at any moment some cause of dispute might arise between the United States and Great Britain. Conversations between the American Minister in London and Lord Palmerston in September, 1849, established that, on the one hand,

‘the United States sought no exclusive privilege or preferential right of any kind in regard to the proposed communication’; while, on the other hand, it was explained, on the part of the British Government,

‘that, as to any idea of their holding exclusive possession of the mouth of the San Juan, as the key of the contemplated communication between the Atlantic and the Pacific, nothing could be further from their minds’.

The United States Government desired to remove British influence from the Mosquito Coast, but was still more desirous of arriving at a friendly settlement with regard

to the future canal; the British Government was unwilling to abandon its claims to the Mosquito Coast, but had no desire to thwart the Americans in their policy with regard to a canal.

In this state of things it seemed best to ignore the differences of opinion as to existing rights and merely to agree, as was settled by Article I of the Clayton-Bulwer treaty of 1850, that

‘The Governments of Great Britain and the United States hereby declare that neither the one nor the other will ever obtain or maintain for itself any exclusive control over the said ship-canal; agreeing that neither will ever erect or maintain any fortifications commanding the same, or in the vicinity thereof, or occupy, fortify, or colonize, or assume or exercise any dominion over Nicaragua, Costa Rica, the Mosquito Coast, or any part of Central America’.¹

Before the ratifications were exchanged, Clayton handed to Bulwer a statement declaring that the Treaty was not understood by the British or American Governments or by the negotiators

‘to include the British settlement in Honduras (commonly called British Honduras, as distinct from the State of Honduras) nor the small islands in the neighbourhood which may be known as its dependencies. To this settlement and these islands the treaty as negotiated was not intended by either of us to apply. The title to them it is now and has been my intention, throughout the negotiation, to leave, as the treaty leaves it, without changing, affirming, or in any way meddling with the same, just as it stood previously. The Chairman of the Committee on Foreign Relations of the Senate, the Hon. William R. King, informs me that “the Senate perfectly understood that the treaty did not include British Honduras”’.²

According to Bulwer,

‘the treaty was intended to apply to future and not to present possessions in Central America; so that, without any question as to what Central America is, H.M.’s settlements in Honduras and its dependencies are not included in the said treaty’.

¹ The treaty is given in Hertslet, *A Complete Collection of Treaties*, vol. viii, p. 969.

² *Parliamentary Papers*, 1856, vol. lx, p. 64.

According to Reverdy Johnson, the American Attorney-General,

‘the treaty did effectually, to all intents and purposes, disown the British Protectorate in Central America and the Mosquito Coast, although it did not abolish the Protectorate in terms, nor was it thought advisable to do so *ipsissimis verbis*’.¹

(5) *The Mosquito Coast*

The intention of the British Government, in maintaining its hold on the Mosquito Coast, was to continue its long-standing protection of the Indian interests; the situation was altered when an active little white community at Greytown (San Juan del Norte) embroiled itself in disputes with Nicaragua and incidentally with the United States. Henceforth the one aim of the British Government was to arrive at a settlement consistent with British honour.

It was evident that, since Great Britain first assumed the protection of the Mosquito Indians, the position of all parties had changed. Spain, instead of retaining absolute sovereignty over all Central America and prohibiting all commerce on the coasts under her sway, had entirely lost her dominions from Cape Horn to Florida. The Mosquito Indians, instead of governing their own tribe according to their own customs, were merely the nominal rulers of an active community of Americans and Europeans. Great Britain, instead of having an interest in the defence of the Mosquito Indians for the sake of rescuing part of the territory of Central America from Spanish control and obtaining an outlet for her commerce, had no other interest in the country than that which was derived from an honourable regard for her old connexion with the Indian natives or Mosquitos.

¹ *U. S. Docs.* ser. no. 694, doc. 13, p. 15, quoted in note to p. 108 of *Anglo-American Isthmian Diplomacy, 1815–1915*, by M. W. Williams.

The British Government had for several years endeavoured to suit its engagements to the altered circumstances of the case. But every proposal had encountered some insuperable obstacle. The contentions between Nicaragua, Costa Rica, and the Republic of Honduras, the absence of any authority with which any permanent agreement could be made, unfounded jealousies of Great Britain, and various other circumstances, prevented for a long time a settlement of this vexatious question.¹ At last, however, a settlement was arrived at (January 28, 1860). Under this treaty² the Mosquito territory was assigned to Nicaragua, with reservations on behalf of the Indians, and with a proviso against cession to any foreign State or person. Finally, in 1894, the Mosquitos were altogether incorporated with the Republic of Nicaragua. In November, 1859, under a treaty³ with Honduras, Great Britain had ceded the Bay Islands to Honduras, together with so much of the Mosquito territory as lay within the Honduras frontier. In this treaty the cession of the Bay Islands was stated to be in consideration of

‘the peculiar geographical position of Honduras, and in order to secure the neutrality of the islands adjacent thereto, with reference to any railway or other line of inter-oceanic communication which may be constructed across the territory of Honduras on the mainland.’

Honduras was bound over not to cede the islands to any other nation.

But, though Great Britain retired from the Mosquito Coast and the Bay Islands, her position was consolidated in British Honduras. The American contention had been that Great Britain should confine

¹ *Parliamentary Papers*, 1856, vol. lx, p. 202. Letter of Lord John Russell, January 19, 1853.

² *Parliamentary Papers*, 1860, vol. lxviii. The treaty is given in Hertslet, *op. cit.* vol. ii, p. 446.

³ *Ibid.* The treaty is given in Hertslet, *op. cit.* vol. ii, p. 367.

herself within the limits of the original territory of Belize ; but the abandonment by Great Britain of the Mosquito Coast and the Bay Islands served, in great measure, to remove what the American Secretary of State had termed, in June, 1859, the only obstacle to a complete and cordial understanding between the British and American Governments.¹ At the same time the Clayton-Bulwer treaty, which gave Great Britain an equal position with the United States with regard to an inter-oceanic canal, had never been popular with the Americans ; and therefore its abrogation by the Hay-Pauncefote Convention of November, 1901, was generally welcomed.²

¹ *Parliamentary Papers*, 1860, vol. lxviii, p. 258.

² *Parliamentary Papers*, 1902, vol. cxxx. The treaty is given in Hertslet, *op. cit.* vol. xxiii, p. 1151.

III. SOCIAL AND POLITICAL CONDITIONS

Religious.—More than half of the population is Roman Catholic, but the Church of England has a considerable number of adherents, and there is an Anglican bishopric at Belize.

Political.—The government of the Colony is in the hands of a Governor, advised by an Executive Council of six members, three of whom are unofficial, and of a nominated Legislative Council, in which there is an unofficial majority.

Educational.—Education is almost entirely denominational; and a law has recently been passed to provide for compulsory education in certain cases.

GENERAL OBSERVATIONS

British Honduras is one of the more isolated British possessions; and, apart from its timber supplies, which now appear to come largely from outside the Colony, it cannot be said to have outstanding importance. But it is a *bona fide* British settlement, British not through the action of the Government but through the sturdiness and insistence of British adventurers, and possessing a long and honourable tradition of British connexion. It has, moreover, economic potentialities which are not yet fully developed (cf. below, p. 55).

IV. ECONOMIC CONDITIONS

(A) MEANS OF COMMUNICATION

(1) INTERNAL

(a) *Roads*

THE roads as a rule are very inadequate. Few of them are fit for vehicular traffic, and those marked on the map are, for the most part, merely bridle-paths or tracks, intended for mounted or animal traffic. The Corosal district is distinguished from the rest of the Colony in having a number of roads suitable for wheeled traffic.

The so-called roads follow three main directions. From Belize a road runs in a south-westerly direction to Cayo, and thence ($8\frac{1}{2}$ miles) to Benque Viejo (on the boundary of Guatemala)—about 70 miles in all; this last stage is described as good. Another road from Belize runs approximately parallel with the coast northwards to Maskall's Bank, and then, bending to the north-west, proceeds to Guinea Grass (about 50 miles). A road runs from Cayo *via* Guinea Grass, Orange Walk, and San Estevan to Corosal, and thence to Consejo, in the extreme north (about 90–100 miles).

These main routes are joined and looped by other roads; a westerly road runs from Orange Walk along the Hondo River, and afterwards in a south-westerly direction to Quam Hill; here it turns to the south-east, and at Canal Bank divides into two branches, both of which reach the road from Cayo to Consejo.

There are occasional isolated roads running a little way inland from the coast. South of 17° north latitude,

however, there is practically no internal communication.

Roadwork consists in opening up and clearing tracks through the bush, and trenching and filling up swampy portions. 'The vitality of the forest is extraordinary. Paths cut are obliterated in a year or two, and it is a constant struggle to keep forest encroachments from the plantations.' Work on the roads is carried out by the Public Works Department from grants made by the Government on the recommendation of the Roads and Rivers Board.

The absence of proper communication by road has not as yet been seriously felt, since, owing to the rivers, the coastal area has been adequately open.

(b) *Rivers and Canals*

Rivers.—The importance of the rivers of British Honduras is very great, on account of the absence of good roads. Most of the waterways in the northern portion of the country are navigable by doreys or pitpans (native cargo boats) for a considerable distance inland. Much produce from the interior is brought down by water to Belize, and cargoes of manufactured goods are carried back. At present, therefore, the grower who has anything to sell in the local markets has to take a voyage which may occupy any length of time from a few hours to several days, according to distance. A small paddling dorey can take only a limited amount of produce, the condition of which is not improved by exposure to weather, and, perhaps, salt water.

The *Hondo River* may be navigated by vessels drawing 4 ft. of water for a distance of about 50 miles, and by smaller craft for 60 miles. The *New River* is navigable for an equal distance. The *Old* or *Belize River* forms the chief highway from the coast to the western and south-western parts of the Colony. It

has a depth of 6-9 ft. ; it is 187 ft. wide at Orange Walk, 121 ft. at Belize Bridge, and 600 ft. at Haulover. It is navigable for light-draught motor and cargo boats for a distance of more than 100 miles. About 30 miles from Belize there are rapids, which necessitate a portage, and other rapids occur at frequent intervals in the remainder of its course. Two great obstructions to navigation have been removed at places known as Little Falls and Big Falls. Most of the traffic to and from the interior is carried over this route, despite high rates for both passengers and freight. Until 1906, goods intended for the western part of the Colony had to be carried, during the wet season, in pitpans, which generally took three weeks to go from Belize to Cayo and suffered frequent accidents. Now, during eight months of the year, goods are taken up in motor-launches, which usually perform the journey in two and a half days, and have been known to accomplish it in as little as 27 hours.

The *Sibun* is navigable for about 30 miles ; the *Manatee*, which has the roughest bar in the Colony, for about 16 miles ; *Mullins River*, a very deep and slow stream, for about 16 miles ; *North Stann Creek* for 18 miles ; the *Sittee* for 16 miles (about 20 miles up there are rapids) ; the *Temash* for about 30 miles ; *Sarstoon River* for about 40 miles, but it has a very dangerous bar. Other smaller rivers are navigable for a few miles above the bar. Some of the estuaries, such as that of the Mullins River, where there is a boat-building industry, are important for navigation. Improvements have been made in the river mouths, and there is scope for further work when money and enterprise render the task possible.

Canals.—There are two short but useful canals. One, about $1\frac{1}{2}$ miles in length, 20 ft. in width, and 5 ft. 6 in. in depth, leads from the Sibun River to the sea.

This canal was cut by a grab-dredger, and the excavated material has been used for road-making. The canal enables doreys to enter the Sibun River without having to cross a dangerous bar. Another small canal has been dug between the Sibun River and the north Manatee lagoon. It is intended that this canal should be enlarged; and, as there is a natural connexion between the northern and southern lagoons, a fair extent of inland navigation would thus be made available for small vessels, which cannot with safety cross either the Sibun or Manatee bars. These lagoons receive a considerable stream of water.

It is clear that an extended system of canals would greatly facilitate and increase commercial undertakings. The Agricultural Commission in 1917 pointed out that a canal connecting the Belize and Sibun Rivers would be of great advantage to that area. The market at Belize is supplied by the inhabitants of the Belize and Sibun valleys, but while the former have an inland waterway to the town, the latter are obliged to cross Sibun Bight, and are often delayed for days by rough and dangerous seas.

(c) *Railways and Tramways*

The first *railway* of the Colony was constructed in the south, where railways are most needed, since the waterways are much less useful than those of the north. It is a short line running to Middlesex from the town of Stann Creek, 25 miles inland. Its gauge is 3 ft. The line is the property of the Government. The first section was opened towards the end of 1908, the second in March 1909, and the line was practically complete in 1910; but extraordinary floods in the following year carried away two bridges, and did other damage. The railway has been extended from Stann Creek to Commerce Bight, where a pier, 400 yds. in

length, has been built. The work of reconstruction was concluded in 1913. Fifty-two bridges were built, with steel and plate girders, and concrete viaducts and culverts. Ballasting and regrading were carried out, additional sidings and new rolling stock were provided, and the permanent way was brought to a state of efficiency. The head of the steamer pier at Commerce Bight, in connexion with the railway, was reconstructed of reinforced concrete, which added greatly to its strength and stability. Steamers can now come alongside with safety.

This railway was constructed for the purpose of conveying bananas and other produce to the coast for shipment. The total cost up to December 31, 1914, was \$826,250.00. In 1914 the receipts from passenger traffic were \$4,434.25, and from goods traffic \$27,778.73; the annual charge for interest was \$24,438.75.

There are two short *tramways* in British Honduras, in the districts of Stann Creek and Toledo. These tramways are open for public traffic, but are principally used for the carriage of bananas from the interior for shipment. The tramway owned by the British Honduras Syndicate runs from the pier at Stann Creek for about $8\frac{3}{4}$ miles through Crown and private lands. Another tramway, about $3\frac{1}{2}$ miles long, connects the Sennis River with the Swasey branch of Monkey River.

(d) *Posts, Telegraphs, and Telephones*

There are twenty-seven post offices in the Colony, six of which are also money-order offices. During the dry season the mail launch runs for about two-thirds of the distance between Belize and Cayo, mules carrying the mails the rest of the way. There is now a regular mail service between these two towns.

A telegraph and telephone line runs from Belize to Punta Gorda, in the extreme south, and another from Belize to Cayo. There is a telephone system in connexion with the roads. One telephone line accompanies the road from Belize *via* Cayo to Benque Viejo, while another runs along the road from Belize to Maskall's Bank for the greater part of its length and is joined at Orange Walk by a line serving the road from Consejo.

Telegraphic and telephonic communication thus extends over a distance of about 200 miles. There are intermediate telephone stations at Orange Walk, San Estevan, and Corosal. Guinea Grass has been connected by telephone with Orange Walk, a distance of 10 miles.

(2) EXTERNAL

(a) Ports

All along the coast-line (180 miles) there are frequent river-mouths, and, at many points, anchorages close inshore for small vessels. In one respect the Colony has an advantage over the West Indian islands. Owing to the long, protecting stretch of reefs and cays, lying some miles out at sea, steamers can ride at anchor almost anywhere along the shore where the water is deep; this gives importance to places like Punta Gorda. There is no regular tide along the coast, but generally there is about one foot more water on the bars of the rivers in the evening, according to the strength of the sea-breeze.

The only two ports of importance are Belize and Commerce Bight. *Belize*, at the mouth of the Belize River, is approached from the east by a well-buoyed channel with sharp turns, which is from two-fifths to three-fifths of a nautical mile in width, and varies in

depth from 60 to 197 ft. The harbour itself is about 11 miles in width from east to west and 3 to 5 miles in length; it is protected to seaward by a reef and numerous mangrove cays. It lies about 10 miles within the barrier reef. The anchorage, which is on mud and sand, in about 20–27 ft. of water, lies between one and three miles to the south of the town. Vessels are loaded and discharged by lighters. There are four public wharves belonging to the Government, on one of which there is a crane capable of lifting 6–7 tons. Belize, which is a port of registry, is about 5,700 miles from Liverpool, 900 from New Orleans, and 600 from Jamaica.

Commerce Bight is situated three miles from North Stann Creek. It has a well-sheltered pier (1,200 ft. long) with a depth alongside of 24 ft. at high tide and 21 ft. at low water. A large quantity of fruit and other cargo is handled here. Commerce Bight was chosen as the coast terminus of the railway rather than Stann Creek, because, although the latter has a protecting reef, the anchorage there is exposed to north and north-east winds, which often render landing and unloading difficult.

Of the anchorages at the river-mouths, that on the Hondo, i. e. deep river, is the deepest in the Colony; the bar has 5 ft. of water, but the entrance is obstructed by many rocky heads. The New River has an approach free from shifting sand-banks; its port at Corosal can be approached by light-draught vessels and the depth off the pier-head is $4\frac{1}{2}$ ft. There is a dry sand-bank at the entrance of the Sittee River; the stream discharges by northern and southern channels, the former having 5 ft. of water on the bar, whereas the latter can be used by canoes only; within the bar there is a depth of 12–15 ft., while anchorage in 5 fathoms can be found a nautical mile south of the Sittee outlet. At the mouth of South Stann Creek the water on the bar is too shallow

for large boats, but there is anchorage in 4 fathoms half a mile east of the entrance. Punta Gorda, at the north-west end of the Gulf of Honduras, is in the neighbourhood of detached patches of $2\frac{1}{2}$ –3 fathoms depth, lying $4\frac{1}{2}$ nautical miles to the south-east. The Rio Grande, where mahogany is shipped, is about 5 nautical miles north of Punta Gorda ; it has an anchorage of about 4 to 5 fathoms and 2 ft. of water on the bar. The Sarstoon River has a bar with about 6 ft. of water ; within the river, beyond a small island, there is anchorage in depths varying from 4 to 10 fathoms, and other anchorages at no great distance. These are only some among the numerous anchorages along this comparatively safe coast, so that there is a possibility of increased harbour facilities wherever there is increased commercial development.

(b) *Shipping Lines*

The only direct steamship service to the Colony from New York is that of the United Fruit Company. Vessels sail every alternate Friday from Belize and Puerto Barrios in Guatemala, carrying freight and mails on one voyage, and passengers on the next. Shipments may be consigned *via* the Southern Pacific Company (Morgan Line) to New Orleans, where goods are transferred to the steamers of the United Fruit Company. From Mobile at the mouth of the Alabama River, the Orr-Laubenheimer Company despatches freight steamers twice a month for Belize and ports in Guatemala and the Republic of Honduras. The average time from New York to Belize is 9 days, from New Orleans 3 days, and from Mobile $3\frac{1}{2}$ days.

There is no frequent direct service to Europe, although the Harrison Line sends 11 steamers every year, which call at Colon on the way. The dates of

sailing are fixed and notified before the beginning of the year. This certainty much stimulates the traffic. The voyage takes about 26 days.

Scrutton, Sons & Company send about 8 steamers each year to carry timber to London. The dates of these sailings are not fixed, and the steamers sometimes return to the West Indies to complete their cargo. They make the direct passage in about three weeks and have a great reputation for comfort.

There are also some lines of local coasting steamers ; for example, a steamer plies between Belize, Corosal, and Orange Walk on the New River.

The following table shows the total shipping inwards and outwards in 1912-14 :

<i>Year.</i>	<i>Inwards.</i>	<i>Outwards.</i>	<i>Total.</i>
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
1912	316,660	313,404	630,064
1913	407,822	409,036	816,858
1914	453,955	470,024	923,979

Normally, the United States and Guatemala send most of the steam vessels, while the Republic of Honduras and Great Britain come next. Most of the sailing-vessels come from the Republic of Honduras, Mexico, and Guatemala. Norwegian ships are replacing British in the fruit trade with the United States. The following return shows the nationality of ships entering British Honduras ports in 1914 :

<i>Nationality.</i>	<i>Steamships.</i>		<i>Sailing-vessels.</i>		<i>Total.</i>	
	<i>No.</i>	<i>Tons.</i>	<i>No.</i>	<i>Tons.</i>	<i>No.</i>	<i>Tons.</i>
Denmark . . .	1	1,621	—	—	1	1,621
Germany . . .	1	2,098	—	—	1	2,098
Great Britain . . .	138	258,688	369	8,197	507	266,885
Guatemala . . .	—	—	16	106	16	106
Mexico . . .	2	50	26	385	28	435
Norway . . .	156	104,650	—	—	156	104,650
Republic of Honduras	—	—	94	1,326	94	1,326
United States . . .	102	75,649	50	1,185	152	76,834
Total . . .	400	442,756	555	11,199	955	453,955

(c) Cable and Wireless Communication

Telegraphic communication with Europe is maintained by a land line to Consejo on the Hondo River, by a cable across the Hondo connecting with the Mexican telegraphic system through Payo Obispo in Yucatan (1911), and by wireless communication with New Orleans (1915). A wireless station has been erected at Belize, with a capacity of 5 kilowatts, and capable of transmitting messages for 400 miles and receiving them from a distance of 600 miles.

(B) INDUSTRY**(1) LABOUR***(a) Supply*

In 1914 there were 5,945 persons in the Colony engaged in agriculture, and 7,675 in trade and commerce.

A large proportion of the population of British Honduras are native Indians, most of whom are engaged in agriculture, while some near the coast are occupied in fishing and, to some extent, in logwood-cutting. They are sturdy in build, industrious, frugal, and inoffensive, and their capacity is by no means slight. The numerous black population furnishes the best and most effective labour of the Colony. Among these, the Belize Creoles are a vigorous and hardy race, who act as wood-cutters in the interior, and are chiefly responsible for keeping up the supply of mahogany and dye-wood. Of other races, the Ladinos supply most of the artisans and operatives, and are also engaged in agriculture in the northern district; the Caribs are largely engaged in fishing—they are more limited in intelligence and perseverance. In the south of the Colony, Guatemalan Indians are employed on the sugar plantations; in

the same district there is also a numerous class of peasant farmers or *milperos*.

Work on plantations has never played so prominent a part in British Honduras as the business of wood-cutting. The system of slavery, therefore, has left effects less disastrous than elsewhere, because of the more unrestrained life that was led by the woodmen in the forest, and the easier relations on which they stood with their masters. This comparative freedom, however, has made wood-cutting so popular that it has been difficult to procure sufficient labour for agriculture. The strong, robust man refuses to till the land; he leaves that work for those who are enfeebled by age or otherwise incapacitated. The ordinary labourer will not wait for the slow yet sure reward offered to the agriculturist. The majority of those who work as agricultural labourers are men who are no longer fit for work as mahogany-cutters. They have been accustomed to task-work, which means that their day is over by 10 or 11 o'clock in the morning, and they refuse work which takes longer. Mahogany-cutting tends to make men nomads.

The Colony is therefore confronted with the problem of shortage of labour and inefficiency of labourers. Its abundant fertility cannot be properly exploited. The best workers are engaged either in cutting mahogany or bleeding chicle. The best land is in the hands of the idlest of the natives. The schools could do much to improve matters if the teachers would give instruction in elementary agriculture, and thus help to increase the number of peasant proprietors.

Many youths wander aimlessly about Belize. It is said that in Cayo alone 150 men are annually idle from the beginning of March to the end of July. These are the *chicleros* (chicle-bleeders), whose business takes them to the forest for the rest of the year. A similar state of affairs exists in other parts of the Colony,

as, for example, in the Orange Walk district. Dr. Lewis, Secretary of the Cayo Agricultural Society, suggests that for the good of the Colony these men should be compelled to cultivate a certain amount of land each year during the idle months; experience has shown that a self-supporting labourer may be made in two years out of the most unpromising material.

It has been suggested that labour might be imported from the West Indies or India if proper inducements were offered. But the attempt to introduce Chinese labour was discouraging, for the Chinese made common cause with the Santa Cruz Indians, who had vowed to exterminate the white man. Although the Colony in normal times is most desirous of obtaining new and enterprising inhabitants, and offers the inducement of land at an easy rental, there is little immigration.

(b) *Labour Conditions*

One discouragement to industry in the Colony is the prevalence of larceny. It is said that the more thrifty and hardworking a planter is, the more he loses in this way. All crops appear to suffer, but especially ground produce, plantains, and coco-nuts. Police protection is ineffective, and legal proceedings, when taken, involve serious loss of time. A system has been advocated, which is in use in Jamaica, whereby authorized persons in each district are empowered to arrest suspected offenders.

The rate of wages varies. In 1914 the wage for wood-cutters averaged from \$10·00 to \$16·00 per month, with rations. The rate for logwood-cutters was somewhat lower than for mahogany-cutters. Plantation labourers earned \$7·50 to \$12·00 per month with rations. Casual labour in the towns was paid at the rate of 50 cents to \$1·00 per day, without rations. The scale for rations was 7 lb. of flour and 4 lb. of pork per week or \$1·00.

(in Cayo \$1.60) as cash equivalent. Women domestic servants were paid at the rate of \$3.00 to \$10.00 per month, and men at \$10.00 to \$15.00, both with keep. Carpenters were paid an average wage of \$1.50 per day, masons \$2.00, and blacksmiths \$2.50. In Cayo and Stann Creek the rate was somewhat higher.

A demoralizing system is in vogue, by which the labourer is paid some of his wages in advance. The hiring is done almost entirely at Belize, so that employers and workmen throng to that town at the end of the year, which is the hiring season. The labourers want money for clothes and amusements, and the employers take advantage of this to make the agreement more binding by allowing the labourers to get into their debt. Accordingly, the labourer obtains an advance of from two to six months' wages, which is quickly spent; after this he is at the mercy of his employer, his character deteriorates, and he loses independence. The labour laws of the Colony have endeavoured to remedy this abuse. The Government relies upon district magistrates using every opportunity of making the law on the subject well known, and applying remedies. Before a recent commission, the only persons who testified to having no difficulty with labourers were those who had some village settlement near them, from which they could draw a sufficient supply of labour. Only two such employers gave evidence, and neither employed this pernicious system of 'signing on' labourers and paying wages in advance.

The late war has had marked effects upon employment in the Colony. Staffs have had to be reduced and the amount of wages lowered. During the hiring season of 1913-14 there were hired in Belize 1,717 labourers at an average wage of \$12.64 per month, while in 1914-15 only 714 labourers were engaged, at an average wage of \$8.21. The Government initiated a scheme for

growing cheap food-stuffs and reducing unemployment; no financial success was anticipated, but it was hoped to tide over a difficult time. Possibly the stimulus given to the cultivation of home produce may have effects that will outlast the war and contribute to the solution of the problem of the shortage of labour.

(2) AGRICULTURE

(a) *Products of Commercial Value*

British Honduras is mainly a wood-producing country, and only a comparatively small proportion of the total acreage is under cultivation, but the soil is very fertile and crops of great variety and abundance can be grown.

Maize, or Indian corn, is the staple food of the Indians and Caribs, who make it into *tortillas* or griddle-cakes. The whole of the produce is consumed in the Colony and there has never been a surplus. In 1914 the Colony imported maize to the value of about \$12,000 from adjacent countries. Perhaps no one article varies so much in price during the year as maize. The new corn is sold at from 50 cents to \$1 per cargo (60 quarts); during 1917 it reached \$4.80 per cargo.

Rice of a high quality is produced, but the amount is limited. The conditions for its growth are eminently satisfactory, but it does not figure among the exports. Some years ago all the rice consumed locally was grown in the Colony; but the foreign article was introduced by enterprising merchants, who were able to sell it at a price which made local production unprofitable; and consequently its cultivation, except in small patches, was abandoned. In 1914 nearly \$50,000 worth was imported. Yet export might be profitable, for the Governor says that the Japanese Government, having seen a sample at the Colonial and Indian

Exhibition, gave an order for 60 sacks, but were able to obtain only one.

Sugar-cane could be grown in most parts of British Honduras. It is cultivated by Americans in the north, and also in the Toledo district in the south, but the cultivation needs stimulus. The cheaply-produced sugar of Guatemala quite recently threatened the sugar industry of British Honduras with annihilation. The cost of producing sugar at the factory is said to be about 4 cents per lb., a figure nearly 100 per cent. higher than the cost of production in the West Indies. The exports of raw sugar in 1911 were about 177,000 lb., in 1912 about 109,000 lb., in 1913 about 123,000 lb., but in 1914 the amount had dropped to 64,000 lb. The sugar trade is hampered by lack of capital and shortage of labour.

Coffee and *cocoa* are both imported, though both grow luxuriantly in the Colony. Cocoa grows wild in the forests¹; it figures in the exports, but only to a limited extent—10,000 lb. in 1912, and 25,000 lb. in 1913.

The fine light soil along the banks of the rivers is admirably suited for the cultivation of *tobacco*, which grows luxuriantly everywhere in the Colony, especially near Corosal. It is said that if it were more generally cultivated and well cured, this tobacco might compete with that of any country. As it is, the Indians and Caribs raise it in quantities far too small to meet the requirements of the Colony. The manufacture of cigars is carried on in a small way with fair results.

Fruit and Vegetables.—Fruit-trees are numerous, but the quality of the fruit is not always very good, and there are many valuable kinds that might be introduced with advantage. The mango is widely distributed, especially at Belize and the settlements, but

¹ Attempts to cultivate cocoa have met with only temporary success, owing to the liability of the plants to attack by very destructive root disease.

the standard of the fruit is not high. The bread-fruit is thoroughly established, and one tree at Belize is equal to anything seen in the West Indies. Pine-apples, oranges, lemons, and limes are found, and with proper attention could be grown with great profit. Other fruits are the akee and the avocado pear. Most important are bananas and plantains, which have been raised for many years, and appear conspicuously in the exports. They are all shipped to the United States. In 1904 over 500,000 bunches of bananas were exported, and in 1913 over 617,000. Plantains have also been exported in small but increasing quantities; in 1912 the number exported was 3,341,425; in 1913 it was 3,300,450. Yams are much grown and eaten. Cassava is a popular crop, and, among other things, produces arrowroot and tapioca. Beans furnish a staple diet (*frijole*), and most European vegetables grow well side by side with tropical products.

Palms rank among the outstanding features of the Colony. They present much variety in size, form, and habit. Among them may be mentioned the pimento palm, the cabbage palm, the big-thatch palm, and the bay-leaf palm. Most characteristic is the cohune palm, which constitutes from 20 to 30 per cent. of the vegetation. It has an annual growth of nuts which hang like huge clusters of grapes. The seeds yield a valuable oil, used locally for feeding pigs and for burning. It is of excellent quality, superior to and burning twice as long as coco-nut oil. The yield is about a quart from 100 nuts. When in full growth, the cohune palm will yield up to three bunches of fruit, each with an average of 500 nuts. Attempts have been made to establish an industry in connexion with the extraction of the oil, but hitherto without success. The shells are very hard, and the problem is whether it would pay better to take the shell to

the machinery or to bring the machinery to the shell.

The coco-nut palm grows in many plantations and might be planted extensively along the whole sea-coast. About 6,000,000 coco-nuts were exported in 1912, and this number had increased to 9,000,000 in 1914.

Among the numerous *oil-plants* in the colony are the wanglo, which is cultivated to some extent, the pindar-nut, a plant grown in light soils, the croton-oil tree, the African oil-palm, the butter-tree, and the horse-radish tree.

There are several *medicinal plants*, such as the castor-oil plant, the physic-nut, jalap, turmeric, sarsaparilla, and a bastard type of ipecacuanha, which grows freely. Cinchona grows to a great height in this country. Spices and other plants of value include cinnamon, camphor, cardamom, ginger, and black pepper.

Fodder-plants are not abundant ; those which most deserve mention are the guango, which yields abundant fodder, and the water-grass or Parà grass.

Two native plants yield *fibre*, the *pita* (silk-grass) and the *hennequin* (or sisal hemp). Both these could be cultivated, and their fibre could be prepared by a very simple machine. The value of the sisal trade lies in its certain and abundant profit, for in the English market sisal hemp sells at about £30 per ton. Fibre is obtained also from the plantain, the banana, and the pine-apple.

Cotton is grown to a limited extent, and has been planted experimentally at Vaca by the Vaca Falls Company, but the cultivation is on the whole neglected and needs stimulation.

Rubber.—A variety of the india-rubber tree, the *Castilloa elastica*, called by the native *toona*, is found on most of the cohune ridges and especially along the banks and in the valleys of the Rio Grande, the Mullins,

Sittee, and Sibun Rivers, and the upper waters of the Belize River. The tree is very abundant in places, and grows to a height of 40–50 ft. Rubber gatherers are supposed to obtain a licence before they tap trees on Government areas, but many trees are bled carelessly and ruthlessly. With proper attention this tree might bring much wealth to the Colony. Parà rubber has been grown experimentally at Vaca.

There is a great variety of *dyes* and *gums*. Indigo seems to be indigenous, and is widely distributed; annatto, the seeds of which yield an orange or yellow dye for silks, grows freely. The tree on which the cochineal feeds is abundant. The dye-woods of the Colony are treated under Forestry (see below, p. 37).

Live-stock.—British Honduras possesses a breed of small horses suitable for the country. Mules of excellent quality are bred. The ass is used for stud purposes only. Cattle are chiefly used for drawing timber from the forest. Very few of the small planters raise stock, although there are in the Colony vast stretches of excellent pasture land with rather coarse herbage.

The wild fauna is very varied. Among the birds may be named the wild turkey, though it has become rare, and the curassow. The domestic turkey is abundant. The iguana and its eggs are much esteemed as food by the natives.

(b) *Methods of Cultivation*

British Honduras might be greatly developed, were more attention paid to its resources. It has not yet been exploited by the economic botanist, or its rich oil-bearing nuts and vanilla would have been turned to account instead of being allowed to go to waste. There is a wide field for the colonist endowed with common sense and a little capital. More scientific methods and more co-operation are greatly needed.

Each planter now has his own sugar-cane fields and his own mills and apparatus for making sugar. He must combine the work of a chemist, a mechanic, and a plantation foreman. Furthermore, intelligent foremen are much needed in the sugar and other industries, who could instruct and train the men under them.

For the cultivation of rice, maize, and leguminous crops, the implements which are generally employed are of the most primitive kind, and modern tools and machinery would be useless until the people had been taught their value and how to use them. Antiquated methods have retarded production in the Colony. The rice is reaped by hand, each ear being cut from the stalk by means of a knife, until a handful has been gathered, which is then tied with a string. The rice is kept in these bundles till required for use, when threshing is done by hand, and the hulling with a pestle and mortar. This is a long and laborious operation, and results in much broken rice. Two or three rice-hulling mills have been introduced. Modern agricultural machinery would work wonders in the quantity and quality of supplies. The nut of the cohune palm is also broken in an antiquated way, and it would be desirable to introduce machinery which would break the shell without damaging the kernel.

There is a current belief that corn can only be kept secure from the attack of insects in the cob, and rice in the paddy. This is a fallacy. The application of scientific knowledge would be of great value to the local growers.

With regard to irrigation, the numerous rivers and their tributaries greatly assist cultivation; but there is still need in many places for canals and artificial waterways, which might be used for irrigation as well as for transport.

(c) *Forestry*

The oldest industry in British Honduras is the cutting of logwood. The logwood-tree (*Haematoxylon campechianum*) grows in moist lands in the north-west parts of the Colony and is also found in the lowlands of the south, although it is not specially characteristic of cohune ridge-land. The trees are from 15 to 20 ft. high, and have a grey outer bark which turns dark as the branches grow older. The trunks are rarely more than 1 foot in thickness. The outer wood or sapwood is immediately removed, as only the inner reddish heartwood is of commercial value. Logwood is too heavy to float and is drawn along tracks to the nearest large stream, where it is packed in bark-logs, which are made into long rafts and floated down the river to the sea.

It is claimed that the logwood of British Honduras is worth 40 per cent. more than that of the West Indies; but the fall in prices some years ago, owing to the increased use of German dyes, greatly curtailed the amount exported. Up to the beginning of the present century, logwood occupied the first place in the Colony's exports, but it was outstripped in 1901 by mahogany and in 1905 by chicle. The export in 1895 was 30,830 tons, value \$699,525, but in 1911 it was only 3,231 tons, value \$54,549. The average price of logwood per ton dropped steadily from \$22.65 in 1895 to \$19.13 in 1901. This induced many cutters to turn to the more lucrative business of mahogany-cutting, and an increase in the cost of freight also served to discourage further operations. There are, however, signs of recovery in the trade. It was estimated that in 1914 mahogany and logwood works occupied 2,615,040 acres.

, Mahogany-cutting is another old industry. The

largest 'banks' are along the Belize and New Rivers ; but the cutting is carried on along most of the northern and some of the southern rivers, though the mahogany of the south is deficient in density and fine grain. Much of the finest timber within easy reach of the principal rivers and their creeks has been cut down. The whole of the northern part of the Colony was divided by the original settlers into enormous estates, which have passed more or less intact to their descendants to-day. Each estate has a river frontage of several miles, taxed by the Government at \$8 per mile. Some of these estates are over a million acres in extent, and, with the limited labour available for cutting, the policy of the past has been to discourage labourers from leaving a plantation. In order to ensure a constant supply of timber, employers cut only one-twentieth part of their forest each year, selecting trees of over 17 in. in diameter, and thus, in the course of twenty years, they return to their original cutting. In this manner, a fixed amount of capital and a permanent gang of men can be steadily employed, without any risk of a failure of timber supplies.

When the owner of an estate decides to establish 'works', or a lumber camp, an experienced woodman, called a 'hunter', is sent to locate trees suitable for cutting. In August the leaves of the mahogany are of a reddish yellow tint, so that they are easily distinguishable. The 'hunter' is paid so much for every tree which, upon examination, is found suitable for cutting, i.e. squaring 18 inches and upwards. A track is opened to each tree, which is then cut down, a platform being necessary, owing to the immense girth of the buttress, or lower part of the trunk. When lopped, cleared, and sawn in serviceable lengths, the logs are drawn to the river, during the dry season, on huge trucks mounted on wheels 3 ft. in

diameter with a nine-inch tread. These are hauled by bullocks, and at night, on account of the heat. During the wet season the logs are drawn on a kind of sleigh which travels over 'skids', long, hard, wooden posts placed across the track. Occasionally logs are drawn a distance of eight or ten miles.

Formerly all logs were squared and prepared for market, unless likely to be injured in transit. Now American mahogany buyers accept logs in the round, owing to the fact that they can be squared more economically at Belize or elsewhere. This has reduced the capital necessary for starting the business of cutting, and has resulted in an immense increase in export.

The development of the trade in chicle (sapodilla gum) has been very marked in recent years. Chicle is obtained by tapping the sapodilla (*Sapota achras*), a handsome hard-wood tree that grows on cohune ridge-land. The tree furnishes a very durable wood, much used for doorposts; but, as it is too heavy to float, it is not exported as timber. To obtain the gum, an incision is made around the trunk, and the sap flows into the lower notch, where a cup is placed to catch it. This sap coagulates into a gum which forms the basis of practically all the chewing gum made in the United States. More than 5,000,000 lb. are now annually exported to the United States, British Honduras being second only to Mexico as supplier. Much of the chicle trade of British Honduras, however, consists of re-exports, only 43 per cent. or 1,410,355 lb. of the exports in 1911 being local produce. The increase in the export of chicle was remarkable in the last decade. In 1909 it ranked first as an article of export. In 1895 the export was 105,478 lb., valued at \$34,479, and in 1911 the export reached 3,219,990 lb., valued at \$968,392.

A contract was signed in 1904 for the sale of pine-trees to Mr. B. Chipley, a citizen of the United States, at the price of 1 cent per tree. It was hoped that wholesale cutting of pine-trees would open up the interior and be of great benefit to trade.

In the backwoods there are many trees of commercial value, many of them as yet unknown to commerce. There are eighty-three kinds of wood enumerated. Some of the trees are dye-wood trees, such as fustic, logwood, &c. ; in 1914 90 tons of fustic, value \$1,350, were exported to Great Britain. Others have medicinal properties, such as the balsam, which in its wood resembles mahogany and sapodilla, but possesses a bark and a gum which can be employed medicinally. Others are oil-bearing, as, for example, the Santa Maria, the seeds of which yield an abundant oil useful for burning, while its timber is unsurpassed for shipbuilding, and is used on account of its durability for the construction of the trucks on which the mahogany logs are drawn to the rivers. The bullet-tree yields a resinous gum (*balata*). The mahoe, a darkish-green wood of great value, supplies the celebrated Cuba bast, which is prepared from the inner layers of its bark. Rosewood, much in request for cabinet-making, is very plentiful in the Colony. Salmwood, a brown and very durable wood, is avoided by all kinds of insects and is therefore useful for lining wardrobes. Other useful trees are the timber sweet, madre cacao, buttonwood, calabash, allspice (much used for walking-sticks), fiddlewood, ironwood, &c.

(d) *Land Tenure*

The Government owns large tracts of land in the Toledo, Stann Creek, and Cayo districts, and smaller tracts elsewhere. In the Blue Book for 1914 the number of acres granted in the Colony was stated to be 2,824,997 (no distinction being made between lands

granted and those sold), while 2,574,714 acres remained ungranted, making an aggregate of 5,399,711 acres. The number of purchases made in that year was 27, comprising some 700 acres. No free grants were made. The land was sold at prices varying from \$2 to \$4 per acre. Building land in Belize and elsewhere fetched higher prices. Much of the land left ungranted is difficult of access until roads, canals, and railways are further extended.

The Land Law permits the Governor in Council to make free grants of 20 acres to immigrants who will cultivate them. All land not in towns is liable to a tax of $1\frac{1}{4}$ cents, and on lands served by a railway a further tax, not exceeding 8 cents per acre, may be levied.

Land is also held by the Western Lands Syndicate, the British Honduras Syndicate, and the Belize Estate and Produce Company, Ltd. These three concerns own about 1,300,000 acres, or nearly a quarter of the whole area of the Colony.

In 1914 it was estimated that only about 60,000 acres¹ were under cultivation. The number of estates under cultivation is unknown, as is also the number of estates once cultivated but now abandoned.

The Colony as a whole has never been surveyed. The need of this work becomes daily more pressing now that the Crown lands are being sold in blocks. Sir E. Swayne, a former Governor, recommended in 1917 that the survey should be accompanied by a geological and economic investigation, in order to ascertain the value of the Colony.

The usual sale price of Crown land for agricultural purposes is \$3.50 per acre, including the cost of survey, and land can be rented at 25 cents per acre ; but these rates may be increased, or reduced, as circumstances

¹ The same figure was given for 1893.

seem to warrant. Sales also take place on condition that a certain area is put under cultivation.

A survey made for the Agricultural Commission (1917) shows that the Crown lands now vacant and suitable for cultivation under present conditions are of small extent. Most of the accessible land is owned or leased by companies or individuals, whereas it would be necessary to make roads in order to get access to Government land. However, there is no real difficulty involved, as most of the large land-owners are willing and even eager to let their lands on reasonable terms. Very few planters cultivate more than a small proportion of the estates they own. They grow a bare sufficiency for their own needs, and it is surprising how small a plantation proves sufficient to maintain a family.

It is thought that an increase in the number of peasant proprietors would multiply the production of food-stuffs and render the Colony less dependent on imported articles. It is recommended that available Crown lands should be sold in small blocks of 5-10 acres, the purchaser being allowed to pay by instalments and the conditions being so arranged that the granting of titles should depend upon the whole block being put under cultivation within a given period. This would give security of tenure, and induce the planter to put in staple crops, such as coco-nuts, coffee, cocoa, and fruit, which would ensure him a livelihood.

(3) FISHERIES

Fishing is the main occupation of a large proportion of the Carib race in spite of the fact that the waters are full of sharks, some of them of great size; the creeks also are infested with large alligators.

The sea, as well as the rivers, affords an abundant supply of fish. The most prized are the callipever,

snapper, bass, mullet, grouper, and king-fish or June-fish. In the rivers the mountain mullet, or tropical trout, not only affords good sport but is most delicate eating. Turtle is found along the coast, and, during the season, turtle-fishing is an established industry. The green turtle is in chief request for food, the hawksbill and loggerhead being taken for the sake of the shell. In 1914 some 2,000 lb. of tortoiseshell were exported to the United Kingdom. Several freshwater tortoises are found in the rivers and used for food, the chief being the hiccatee. The manatee, an animal about the size of a seal, is an inhabitant of the waters of the Colony and is hunted for its skin, its oil, and its flesh, but is becoming more and more rare, owing to the attacks made upon it.

The king, queen, and common conch are found in the outer cays and along the coast, and the flesh of some of these is used for food. It is said that the shells might form an important article of export, as they are largely used for cameos, and in the common conch there is found a beautiful, pale pink pearl of great value. An attempt has been made to develop the sponge fisheries, but without success. In 1914 some 900 lb. of raw sponges were exported to the United States.

(4) MINERALS

There has always been a strong presumption of the existence of mineral wealth in the Colony, in view of the yield of mines in the neighbouring republics. An investigation of the country at the head-waters of the Sittee River in 1878 led to no definite result, but a search among the hills that run north and south behind the Cockscomb Mountains justified the belief that *coal*, *gold*, and *silver* might be found in these parts. In one locality a large quartz reef was dis-

covered, some pieces of which, upon analysis in Belize, were pronounced to be gold-bearing quartz. More recently a mining expert has brought back specimens from the country north of the Cockscomb Mountains, which upon reduction yielded a considerable percentage of gold. On the borders of British Honduras gold has been mined, and the Spanish half-breeds have brought down gold-sand from unknown districts in the interior.

A surveyor brought back a few *rubies* found in blue clay up the Belize River. They were cut at Aberdeen and found to be beautiful stones. Unfortunately the surveyor died before he could indicate the locality. *Opals* have been obtained from Caribs in the southern district.

Manganese, graphite, and lead have been discovered near South Stann Creek.

Vast deposits of *limestone* have been found in numerous sections along the southern rivers. This stone has proved of great service in the construction of the railway, and offers the possibility of establishing cement-works. In the same region have been found fine *building-stone* and *marbles* of excellent quality. Every sort of *clay* has been found in the Colony, including large tracts of pure white clay (kaolin).

In the bed of the Deep River there are *mineral springs*, impregnated with sulphur, and having a temperature of 84° F. (29° C.).

(5) MANUFACTURES

The most important manufactured products of the Colony are sugar and rum. Altogether there are about fifty sugar-mills in British Honduras, but all the produce is consumed locally. In the Belize district sugar is manufactured by the open kettle system, except

at San Francisco, San Maximo, Aventura, and Louisville, where continuously working shallow evaporators are used. The Corosal district has seven steam sugar-mills ; Orange Walk district has one motor-driven and two steam sugar-mills ; in Stann Creek district there are two sugar-mills ; in Cayo district there are five sugar-mills of a primitive type ; in Toledo district there are ten sugar estates with mills. *Panela*, a substitute for sugar, is made in the Cayo district.

There are seven still-caps in the Corosal district, varying in capacity from 100 gallons to 450 gallons ; in Orange Walk district there are two.

In 1913 rum was made at ten distilleries, nine situated on the sugar farms in the northern districts and one at Cayo. Their output and export from 1909-13 were as follows :

<i>Year.</i>	<i>Gallons made.</i>	<i>Gallons exported.</i>
1909	62,708	2,672
1910	46,714	3,826
1911	48,632	6,611
1912	63,701	12,690
1913	82,787	14,811

The locked-still system of making rum came into force in December 1910, and has worked successfully.

Moccasins are manufactured in large quantities in the Corosal and Orange Walk districts, and also at Punta Gorda, Monkey River, Cayo, and Benque Viejo.

Cigars are manufactured in fair quantities in the Corosal and Toledo districts.

Other factories in the Colony include a steam ice manufactory and an electric-light factory in the Belize districts, a cohune factory in Stann Creek district, and a coffee mill in the Toledo district. There are two small saw-mills in the Belize district and one saw-mill apiece in the Toledo and Stann Creek districts.

A certain amount of boat-building is done in the Colony, on the Mullins River and elsewhere.

(6) POWER

There are a number of waterfalls and rapids in some of the rivers, but they do not seem to be of great height. In the Cockscomb Mountains there are waterfalls of greater height, which might be available for power. It has been seen that there are saw-mills and sugar-mills which are driven either by electric power (Morter's Rancho, Fair View, Spice Hill, Fern Hill) or by steam, or are worked by cattle.

(C) COMMERCE

(1) DOMESTIC

(a) Principal Branches of Trade

The domestic trade of the Colony is in an unsatisfactory condition, and needs the best attention of the authorities. It is not strong enough to hold out against foreign competition, as was shown in the case of rice and, to some extent, in that of sugar. There are no satisfactory inducements to make the planters grow more than will satisfy their own needs, and only a good season gives them a sufficient surplus to stock the local markets. It is a depressing fact that an exceptionally fertile colony should be driven to import the bulk of its food-stuffs.

A large amount of maize is grown in British Honduras. It is stated that a system has been pursued for years, by which the corn is bought when it is new and low in price, and is held up till the market has risen. Practically a ring has been formed, and a few men have been enriched to the detriment of the many. It is

recommended that a maximum price should be fixed for maize, and also for rice, from time to time, so that the planter might expect a fair profit while the public would be protected against 'profiteering' prices. The Agricultural Commission of 1917 suggested also that some security should be afforded to the growers by a protective tariff, until the industry should become firmly established.

Rice has found it difficult to survive the competition of the foreign article. It has been held that if the Government introduced rice-cleaning machinery, protection from undue loss could be secured by the purchase outright of rice in the paddy, at a figure which would enable the Government to clean and prepare the product for use, and then sell to dealers for the retail trade.

Though sugar can be grown in most parts of the Colony, no advance has been made in the sugar trade. All, or nearly all, of the sugar grown in the Colony is sold locally, and a considerable quantity is imported annually. The war opened a possibility of re-establishing this industry.¹ Some effort ought to be made to attract capital for the establishment of central factories. The day of small planters, each toiling to make a living with the primitive methods of the past, is over.

(b) *Towns, Markets, &c.*

Belize is the chief centre of trade. The market accommodation is inadequate, but the Chamber of Commerce will probably prove useful in this respect. It is said that the war has stimulated production, and it is to be hoped that the Colony generally will take advantage of this to develop its resources to greater advantage when normal conditions return. At present

¹ Nevertheless, throughout the late war, Belize remained dependent upon Guatemala for its supplies of white sugar for local consumption.

coco-nuts, plantains, &c., are sold to the store-holders in bulk, and retailed in small lots. The general feeling is that trade would benefit if all food-stuffs were bought and sold by weight and measure. Planters never know what price they are getting for their produce, and the buyer is at the mercy of the retailer.

Corosal has a market, and *Punta Gorda*, a Carib settlement, supplies Belize with cattle, fruit, and vegetables.

(c) Organization to promote Trade and Commerce

A Chamber of Commerce has been lately inaugurated, and will, no doubt, help to make known more widely the openings for trade with the Colony; but, meanwhile, for the reasons which have been assigned, trade is restricted.

(d) Foreign Interests

Owing to the proximity of American markets it is not surprising that the United States secures the chief share of imports and exports. Progressive merchants take advantage of the attractions of the American market. Comparison is made between the push of American enterprise and the slowness of British methods. American magazines and books enter the Colony more freely than British literature, and American books of instruction are used even in the schools. The mass of the people, however, are solidly loyal to their British connexion, though coming so largely under American influence. The trade of the Colony is mainly in the hands of British merchants, though there used to be some German firms.

(2) FOREIGN

In proportion to the number of its inhabitants the foreign trade of British Honduras is extremely large. This is due in great measure to the fact that the

Colony forms the commercial gateway to a considerable part of Yucatan in Mexico, and to nearly the whole of the state of Peten in Guatemala. There is a considerable trade with the latter region which does not appear in the export returns. Owing to the large and increasing trade in chicle and mahogany from Mexico to Guatemala, the percentage returns of the import trade are somewhat misleading. The total imports into the Colony in 1911, for example, amounted to \$2,886,677, more than double the value of imports ten years ago, but included in this total are the figures for the transit trade, which comprise certain imports re-exported, without in any way entering into the commerce of the Colony. The total trade of the Colony in 1912 amounted to \$6,353,051, in 1913 to \$6,311,593, and in 1914 to \$5,899,181.

(a) *Exports*

The exports from British Honduras include a wood called cedar,¹ logwood, fustic and mahogany, bananas, plantains and other fruits, cocoa, coco-nuts, sapodilla gum, rubber, rum, sponges, sugar, and tortoiseshell. In 1913 some of the mahogany and cedar, and a large quantity of sapodilla gum, came from Mexico and Guatemala, and many of the coco-nuts were foreign imports re-exported.

The following table shows the value of the chief articles of export (including articles imported and re-exported) in 1912 and 1913 :

	1912. Dollars.	1913. Dollars.
Bananas. . . .	105,109	147,515
Cocoa	4,550	4,972
Cedar	151,771	222,383
Coco-nuts . . .	123,386	166,469
Logwood . . .	56,340	53,061

¹ This is not true cedar, but a wood similar to mahogany.

	1912. <i>Dollars,</i>	1913. <i>Dollars.</i>
Mahogany . . .	1,012,864	1,050,987
Plantains . . .	27,563	27,225
Rubber . . .	17,298	6,277
Sapodilla gum (chicle)	931,848	969,422

The exports were distributed as follows :

	1912. <i>Dollars.</i>	1913. <i>Dollars.</i>
United Kingdom	309,336	381,788
British Colonies	—	18,233
United States	2,249,732	2,376,685
Mexico	127,636	225,693
Guatemala	46,338	16,415
Republic of Honduras . . .	87,317	76,009
France	33,200	21,996
Other Countries	2,584	9,406
Total	2,856,143	3,126,225

(b) *Imports*

The values of the principal articles imported in 1912 and 1913 were :

	1912. <i>Dollars.</i>	1913. <i>Dollars.</i>
Apparel	67,105	66,145
Boots and shoes	94,855	120,993
Cotton piece goods	216,656	215,081
Flour	118,722	106,542
Hardware and cutlery . . .	75,317	82,934
Machinery	53,516	35,794
Mahogany	297,750	210,262
Sapodilla gum (chicle) . . .	418,500	351,719

Imports both from the United States and the United Kingdom were steadily increasing in the years immediately preceding the war, but there was no sign of British goods being superseded in any way by foreign goods. On the contrary, such articles as butter, boots, candles, confectionery, and clothing were im-

ported more extensively from Great Britain in 1913 than they were five years earlier.

The following table shows the countries of origin of the imports in 1912 and 1913:

	1912. <i>Dollars.</i>	1913. <i>Dollars.</i>
United Kingdom	666,765	700,859
British Colonies	45,654	38,913
United States	1,327,550	1,567,582
Germany	55,072	52,246
France	43,813	32,830
Mexico	1,100,136	489,399
Guatemala	145,269	106,603
Republic of Honduras	77,039	161,890
Other Countries	35,610	35,046
Total	3,496,908	3,185,368

(c) *Customs and Tariffs*

An *ad valorem* import duty of 12 per cent. is imposed under Ordinance No. 14 of 1911 on various articles, among which are bacon and ham, cheese, confectionery, wearing apparel and haberdashery, cotton and silk piece goods, drugs and patent medicines, hardware, jewellery, machinery, wood and wickerware, arms, and certain building materials.

Specific import duties are also imposed on certain articles. For example, beer, porter, cider, and perry pay 25 cents per gallon, cigars 25 per cent. *ad valorem* and \$6 per thousand, opium \$4.00 per lb., pork \$1.00 per barrel, refined sugar 0.03 cents per lb., and unrefined sugar 1½ cents per lb.

There are various exemptions, including agricultural implements, animals, and books and stationery.

(D) FINANCE

(1) *Public Finance*

The amount of general revenue and expenditure from March 31, 1910, to March 31, 1914, can be seen from the following table :

<i>Year.</i>	<i>General Revenue.</i> <i>Dollars.</i>	<i>General Expenditure.</i> <i>Dollars.</i>
1910-11	459,295	542,810
1911-12	1,201,908	532,123
1912-13	575,243	611,040
1913-14	590,982	609,441

The figures for 1911-12 include \$703,593 reimbursed from loan funds on account of expenditure on railway and other public works.

The chief heads of revenue for the year 1913-14 were as follows :

	<i>Dollars.</i>
Customs	324,178-90
Internal Taxation	97,266-87
Revenues of Government Property	23,070-05
Fees of Court or Office, &c.	24,223-82
Post Office	28,305-42
Telegraphs and Telephones	10,620-72
Interest	19,103-80
Railway Receipts	29,191-37
Reimbursement from Loan Funds on account of Railway Construction Loan work	17,173-70

The principal heads of expenditure in the same year were :

	<i>Dollars.</i>
Public Works and Telegraphs, Recurrent Expenses	56,572-33
Stann Creek Railway	49,205-73
Police Department	47,588-85
Medical Department	41,493-79
Public Debt	41,734-66

On March 31, 1914, the assets of the Colony stood at \$490,125 and the liabilities at \$201,955, so that the excess of assets over liabilities was \$288,170.

The loan debt of the Colony on December 31, 1913, was as follows :

	<i>Dollars.</i>
Loan of 1885 (5 per cent. Debentures)	27,875
Loan of 1887 (4½ „ „)	43,740
Loan of 1891 (4½ „ „)	97,200
Railway and Public Works Loan 1911 :	
Debentures	209,466
Inscribed Stock	568,134
Total	946,415

The loans of 1885, 1887, and 1891 were all contracted for the improvement of the town of Belize. The local fund contributes one-half of the interest on the loans of 1885 and 1887 and one-half of the sinking fund on the loan of 1887, but nothing in respect of the loan of 1891. The sinking fund of the loan of 1885 requires no further contributions, as the present capital value of the fund is sufficient to produce, at compound interest, the total amount which will be required to liquidate the loan when the payment is due. Ordinance No. 10 of 1902 legalized the discontinuance of contributions to the fund.

Provision for the repayment of these loans was made by the investment of the sinking funds. The loans of 1885 and 1887 were repayable in 1916 and 1918 respectively. The market value of the investments made on account of the 1891 loan, repayable in 1923, was \$48,848 on December 31, 1913.

(2) *Currency*

By Ordinance No. 31 of 1894, the currency was established on a gold basis, the United States gold dollar being adopted as the standard coin ; the exchange

value with London in 1914 was \$4.86 to the pound sterling. Gold coins of the United States Mint are legal tender for the amount of their face value, as are also the British sovereign and half-sovereign for the amounts of \$4.867 and \$2.433 respectively. There is a local subsidiary currency of 50-cent, 25-cent, 10-cent, and 5-cent silver pieces, and a Government note issue of the following denominations: 1, 2, 5, 10, 50, and 100 dollars. The value of notes in circulation on March 31, 1915, was \$191,980. A nickel-bronze 5-cent piece and a bronze 1-cent piece are also current. The limit of the legal tender in silver is fixed at \$10, and in nickel or bronze at 50 cents.

In 1914 the estimated amount of gold coin in circulation was \$50,000, of silver \$158,916.75, of nickel-bronze \$2,500, and of bronze \$5,750.

(3) *Banking*

The Government Savings Bank, established in 1846 at Belize, with branches at Corosal, Orange Walk, Stann Creek, Punta Gorda, and Cayo, had a capital of \$104,441.55 on March 31, 1916.

On October 14, 1912, the British Bank of Honduras, Ltd., was bought over as a going concern by the Royal Bank of Canada. The capital of the British Bank of Honduras, Ltd., was \$100,000, and there were deposits of \$401,479. Banking of every description is conducted by the Royal Bank of Canada, which has a paid up capital of \$11,560,000. The considerable volume of trade with the United States has accustomed local merchants to the American demand for short credits. For small transactions it is generally better to deal through a responsible commission agent in Belize.

(E) GENERAL REMARKS

The two chief handicaps to the prosperity of British Honduras are its geographical position and the shortage of labour. The first cannot be remedied, and for the second no satisfactory remedy has yet been devised. The Colony lies at the head of a gulf, distant from any main trade-route, and on the direct route to nowhere except its own hinterland of Guatemala. It is, moreover, too far north to profit much by the opening of the Panama Canal. The difficulties that arise from the shortage of labour have already been described on pp. 28-9. On the solution of this labour problem depends the value of British Honduras to the mother-country.

The Colony on the other hand has many advantages. Every witness before the Agricultural Commission in 1917 testified to the fertility of the soil. British Honduras is practically free from hurricanes; earthquakes are slight; the long line of cays acts as a protection to its coasts and provides comparatively calm water; and it enjoys the advantage of deep estuaries.

There is a good deal that is encouraging in the present situation. The difficulty of importing sufficient food-stuffs in time of war has given a stimulus to home agriculture. There are many crops, successful on a small scale, which with due attention might be made profitable on a larger scale. Much might be done with rice, cotton, sugar, coco-nuts, and cocoa, and the comparative success of bananas and plantains might be made more notable. There has been a largely increased demand for mahogany for Government purposes, which has given a great impetus to employment, and is proving beneficial to the Colony in general. It is true that the logwood trade was steadily declining

before the war, owing to the popularity of German dyes. The suspension of the import of German aniline dyes, however, has caused an increased demand for the vegetable dyes of British Honduras, and with the development of the dye industry in Great Britain the demand is likely to continue. Even as it is, only the difficulties of transport keep the exports of logwood and fustic at a low figure.

The recent report of the Agricultural Commission encourages the hope that more will be done for the agricultural resources of the Colony. Time and capital are required in order to develop the internal means of communication, but, if these are improved, trade in British Honduras may be expected to expand considerably.

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MAPS

A map of British Honduras, on the scale of 1 inch to 30 miles, compiled from records in the Survey Department, 1909, was issued by the Ordnance Survey Office, Southampton (1919), in connexion with this series.

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INTRODUCTION

TO THE

GUIANA COLONIES

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I. EARLIER HISTORY

CHRONOLOGICAL SUMMARY

- 1595-6 Voyages of Raleigh, Keymis, and Masham.
- 1616 A Dutch trading post established on the Essequibo.
- 1621 Foundation of the Dutch West India Company.
- 1627 Settlement made on the Berbice by Abraham van Peere, of Flushing.
- 1630 Captain Marshall's colony on the Surinam.
- 1645 Marshall abandons Surinam.
- 1650 New English colony planted on the Surinam by Lord Willoughby of Parham.
- 1658 Settlement of Zeelanders on the River Pomeroon.
- 1663 Grant of land between the Rivers Saramacca and Marowynne to Lord Willoughby and Lawrence Hyde by Charles II.
- 1664 After several failures a permanent French colony established at Cayenne.
- 1665 An English raiding force captures the Dutch colonies of Essequibo and Pomeroon, but is repelled from Berbice.
- 1667 The Dutch Admiral Crynnsen takes Paramaribo and recaptures the Essequibo-Pomeroon Colony.
- 1667 Peace of Breda. Surinam surrendered to the Dutch.
- 1674 New charter granted to the Dutch West India Company.
- 1674 Peace of Westminster confirms the Dutch in possession of Surinam.

i. *Boundaries and Natural Divisions*

GUIANA is that northern portion of the South American continent which lies between the mouth of the Amazon and that of the Orinoco and has for its well-defined boundaries the Atlantic Ocean, the Amazon River to its junction with its great affluent the Rio Negro, the Rio Negro to the point at which it is joined by the Casiquiare, this last-named waterway

to the Orinoco (from which river it flows out, thus uniting by a navigable stream the Orinoco and Amazon river-systems), and then the Orinoco to the ocean. Guiana thus forms a kind of giant island marked off from the rest of the Continent. It is further divided into two portions by a succession of mountain ranges, the Imataca, Pacaraima, and Tumuc Humac, forming the watershed between the Amazon-Orinoco basin and that of a number of rivers which run in a northerly or north-easterly direction from these mountains to the Atlantic Ocean. It is with this portion of Guiana between the mountains and the sea that this history is concerned—a history that is quite distinct from that of all other parts of South America, and has a character peculiarly its own. The Spaniards and the Portuguese have never at any time attempted to establish posts or to settle any portion of the coast-line of Guiana between the mouths of the Orinoco and the Oyapok; and into that large area between the coast-line and the above-named mountain ranges not a single Spanish or Portuguese expedition for exploration or adventure has ever been known to penetrate. It remained to them a *terra incognita*, but was an open field for the colonising efforts of other nations.

ii. *Early Expeditions to Guiana. Dutch Settlement on the Essequibo*

So much was this the case that down to the end of the sixteenth century practically nothing was known even of the coast-line of Guiana (the “Wild Coast” of the Dutch). Raleigh, fascinated by the myth that in the far interior of Guiana lay, on the shores of the inland sea of Parima, Manoa, the city of El Dorado (the “Gilded King”), sailed along the coast in 1595, and made his way some distance up the Orinoco. His voyage was followed by those of his lieutenants, Laurence Keymis and Thomas Masham, who conducted two other expeditions a year later, and visited all the

river-mouths between the Amazon and Orinoco.¹ Raleigh's narrative was translated into many languages, and its glowing descriptions aroused general interest, especially in Holland.

Accordingly in 1597-98 a Dutch expedition (of which an interesting record survives)² sailed in the tracks of Raleigh and Keymis from river-mouth to river-mouth; and from this time forward there was a continuous succession of Dutch and English efforts to effect settlements in Guiana. None of these earliest attempts, however, reckoned with the difficulties of communication or with the trying nature of the climate, and they met with disastrous failure. [The first beginning of a permanent settlement was a trading post established high up the estuary of the Essequibo by a private company of Zeeland merchants about 1616. It owed its continuous existence to the fact that the Dutch West India Company was created in 1621,³ and that trading in the Essequibo and its affluents became the monopoly of the Zeeland Chamber of that company (of which the merchants above mentioned were leading directors).] For many years, however, its fortified post at Kijkoveral³ (on a little island overlooking the point of junction of the rivers Mazaruni, Cuyuni, and the Upper Essequibo, which here unite to form the large estuary of the Essequibo) remained a mere trading post and not a regular settlement. It depended for its subsistence mainly on the regular visits of vessels from the homeland, which brought a supply of articles for bartering with the native Indians, and carried back annatto dye, letter-wood, and other natural products of the land. Guiana, as long experience has shown,

¹ Raleigh, *The Discoverie of . . . Guiana*, 1596; Keymis, *A Relation of the Second Voyage to Guiana*, 1596; Masham, *The Third Voyage . . . to Guiana*, 1596.

² *Verclaringe van de . . . voyage van America*, 1597-8; by A. Cabeliau, the Commissary-General of the expedition.

³ The name, which signifies "outlook everywhere," is descriptive of the position.

has been no field for profitable colonization, save along the narrow fringe of alluvial soil upon its coast.

iii. *Physical Character of the Country*

The physical character of the country has fixed its destiny from the time of Raleigh down to the present day. All along the shore (except at Cayenne) lies a strip of alluvial muddy detritus, from 25 to 30 miles broad, protected against the inroads of the sea only by a tangled mass of *courida* and mangrove roots, and separated by swamps from reefs of sea-shells and sand forming the original coast-line. This marshy strip is intersected by innumerable streams, intercommunicating, and affording a network of waterways navigable by canoes. Behind this coastal fringe the land gradually rises, and is covered with dense tropical forest. Only here and there are to be found savannahs of grass land and scrub. Through these interminable forests flow the rivers, which form the only means of communication with the interior; but in every case frequent rapids render them unsatisfactory as channels of commerce. The coastal fringe has, however, when empoldered, proved to be rich and valuable land for the production of sugar-cane, cotton, coffee, and in late years of rice.

All European settlements have been confined to this alluvial strip, mostly at the points where the mouths of rivers have become tidal estuaries. In dealing successfully with low-lying marshy land such as that which is found here, the Dutch, from their home experience, had an advantage denied to other early settlers. But, for any settlement to maintain itself in such a country, regular and frequent communication with Europe was essential; and it was, so far as possible, established. For the vessels employed on this service the course was dictated by the direction of the winds and tides. The Cape Verde Islands were the first halting-place for taking in fresh supplies. From these islands the trade winds carried the voyagers

across the Atlantic to the coast of Brazil near the mouth of the Amazon. A strong stream flows north-west along the coast of Guiana, accompanied by a favouring wind. The ships, therefore, hugging the shore, made their way from river-mouth to river-mouth, returning finally to the home ports by way of the West Indies. It was the adverse conditions of wind and tide which protected the early Guiana colonies from attack by the Spaniards from their establishments to the west.

iv. *Settlements at Berbice and Surinam*

The second permanent colony in Guiana was on the River Berbice, whose mouth is about sixty miles to the east of the Essequibo. A Flushing merchant, Abraham van Peere, in 1627 obtained from the Dutch West India Company permission to form a trading settlement on this river, he being the proprietor or patron. The first body of colonists consisted of forty men and twenty youths, who erected a fort some miles up the river, to which the name of Fort Nassau was given.

Three years later the River Surinam became the seat of the first English colony in Guiana that attained any measure of success. Its founder, Captain Marshall, brought with him some sixty settlers from Barbados, St. Kitts, and other West Indian islands. These men being more or less acclimatised, the settlement, Tarrica, some way up the tidal river, prospered for several years. The Civil War in England unfortunately proved fatal to its prospects; and in 1645 the River Surinam was for a while abandoned. It was, however, resettled by Lord Willoughby of Parham, who became Governor of Barbados in 1650. He removed the seat of government of his new colony to the Indian village of Paramaribo, nearer the coast. In 1663 Charles II made Lord Willoughby¹ a grant of the land between the Rivers Saramacca and Marowyne, to which the

¹ The grant was to Lord Willoughby and Lawrence Hyde, second son of Lord Clarendon.

name of Willoughbyland was given. The Willoughby colony at this date, according to official reports, was in a highly flourishing condition, and the population was about 4,000. A large part of these were negro slaves brought from the coast of Guinea. The belt of alluvial land, when properly embanked and drained, was admirably suited for sugar-cane plantations; but white men were unable to bear the strain of hard manual labour in a tropical climate. The value of the Guiana colonies depended henceforth almost entirely upon the number of slaves imported and maintained.

v. Effects of the Dutch Wars. Further Settlements

— The long struggle with the Portuguese for dominion in Brazil, followed by the disastrous war with England in 1653-54, had ruined the Dutch West India Company; and the colony on the Essequibo had only survived because the commander¹ (governor) from 1645 to 1664, Groenewegen by name, was the man who, as agent for a private company, had originally founded the settlement at Kijkoveral, and who in his residence of forty-eight years had ingratiated himself with the native Indian tribes and could rely upon their friendly help. It is recorded that with the aid of the Caribs he had even been able to conduct explorations into the far interior. Many refugees from Brazil (which was finally lost to the Dutch in 1654) fled to the West Indies; and, according to one authority,² a party of them effected a settlement on the River Pomeroon, to the west of the Essequibo, in 1650. The enterprise was short-lived; but it was probably through information brought by the survivors that in 1657 three Zeeland towns, Middelburg, Veere, and Flushing, entered into a contract with the Zeeland Chamber of the West India Company to plant a colony on the River Pomeroon. By the terms of the contract the

¹ Dutch "Commandeur."

² Sloane MS. 3662, ff. 47-48.

new colony was to be governed by a commissary subordinate to the Commander of Essequibo. In 1658 the settlers, many of whom were Jews, established themselves at New Middelburg, near the mouth of the Pomeroon, with a fort, Nova Zeelandia, for its protection higher up the river. This colony, as extant records tell us, became very flourishing; and a number of sugar plantations, both on the Pomeroon and along the shores of the Essequibo estuary, were successfully laid out and cultivated.

vi. *The Second Anglo-Dutch War*

— The second Anglo-Dutch war, 1665-67, brought to a sudden end the prosperity alike of Surinam and of Pomeroon. An English force from St. Kitts, under Major John Scott (who has himself left an account of the expedition),¹ raided and destroyed in 1665 the Dutch settlements both on the Pomeroon and the Essequibo. An attack made on Berbice was, however, repelled. Scott claims to have captured 73,788 lb. of sugar, other goods to the value of £160,000. and 1,200 slaves. The triumph was short-lived; for a relieving force from Berbice compelled the garrison left by Scott to capitulate, and recaptured the slaves. The States of Zeeland despatched a fleet of seven vessels under Admiral Crynnsen in 1667, which attacked Paramaribo, and compelled the English Governor, Byam, to surrender the colony of Surinam. By the Treaty of Breda (April 1667) it was agreed that all captured places should be retained. The effect of this was that the English kept New York, which had been taken by an English squadron, and Surinam became a Dutch possession, but on the condition that Lord Willoughby and the settlers should be allowed to take away their slaves and other movable possessions. Complications, however, arose. After peace had been signed, but before news of it had reached the West Indies, the English admiral, Harmon, had captured the

¹ Sloane MS. 3662; see *English Historical Review*, October 1901.

French colony of Cayenne, and had succeeded in forcing the Dutch garrison in Surinam to surrender. The treaty, however, was an accomplished fact, and Lord Willoughby seized the opportunity to order his plantations to be destroyed and to remove all that was of value. The Dutch and French protested, and Admiral Crynnsen was despatched from Holland, carrying with him letters ordering the British Governor, Bannister, to deliver up the colony. On Bannister's insisting that the terms of the treaty with regard to Lord Willoughby's property had not yet been executed, he was carried as a prisoner to Holland. Matters now became serious, and the Surinam question was ultimately one of the causes alleged for the declaration of war by Great Britain against Holland in 1672. At the peace of Westminster (1674) the Dutch retained Surinam; but the English colonists were permitted to take away their slaves and their goods.

vii. *Cayenne*

It has already been told that Admiral Harmon in 1667 captured the French colony of Cayenne. This colony had been the result of persevering efforts. A company was formed at Rouen in 1643, called the Cape North Company; and in that year a large number of settlers under the Sieur de Brétigny went out to Cayenne. Brétigny was, however, utterly unfitted for his task. He drew upon himself the hatred both of his own people and of the Indians, by whom finally he and almost the whole of the settlers were massacred. In 1652 another Cape North Company was formed, which obtained letters patent from Louis XIV for the exclusive right of trading and settling in Guiana; and no less than 800 persons set sail from Havre for Cayenne under the command of a Norman gentleman, named De Royville. This settlement also was short-lived. Internal dissensions, disease, privations, and the hostility of the Indians quickly wrecked the enterprise. Undeterred by failure, another company, the Equinoctial Company, came into existence in 1663; and 200 colonists

left La Rochelle for Cayenne in 1664. Their Governor, De la Barre, a politic and conciliatory man, by securing the goodwill of the Indians, was able at last to lay the foundations of what was to prove a permanent settlement.

The result of the wars of 1665-67 and 1672-74 was the destruction and devastation of all the Guiana colonies. Berbice alone had escaped capture. A new chapter is opened at this point in the history of Guiana colonization; and for upwards of a century England had no part in it. On the other hand, the Dutch possessions extended without a break from the Orinoco to the Marowynne, i.e. to the borders of the French settlement at Cayenne.¹

¹ For the later history of the Guiana Colonies see No. 135 of this series, *British Guiana*, No. 136, *Dutch Guiana*, and No. 137, *French Guiana*.

II. COMPARATIVE SKETCH OF ECONOMIC CONDITIONS

Introductory

IN view of the physical and geographical unity of the Guianas, and of the similarity in their natural resources, it may be appropriate to sum up briefly the material results achieved by the three nations which have guided the destinies of these colonies.

Existing conditions result in the main from the degree of success with which the colonies have withstood the economic cataclysm which befell them in the emancipation of the slaves; and the extent to which difficulties have been surmounted, and the potentialities of the region turned to account, seems to depend in the last resort upon the energy and resource of the Home and Colonial Governments and the commercial enterprise and colonizing aptitudes of the peoples.

A. FRENCH GUIANA

i. General Condition of the Colony

The economic condition of French Guiana is not satisfactory. Its one important industry, gold-mining, is stationary, if not actually declining; and it suffers in a special degree from the want of efficient means of communication, the scarcity of labour and capital, and the lack of external support which hamper development more or less in the whole Guianese region. Cayenne has no railway, no adequate shipping facilities, no indentured immigration,

nothing which could be called an agricultural labour force, and no agricultural activity. The absence of a railway is rendered the more serious by the character of the rivers, which are broken by rapids more frequently and at shorter distances inland than those of British and Dutch Guiana, and are periodically made almost unnavigable by floods or drought.

In all the Guianas a greater or less want of facilities of communication reacts adversely upon the enterprises which are carried on in the interior, but the position in Cayenne is particularly serious in this respect by reason, on the one hand, of the greater difficulties which have to be encountered, and, on the other, of the fact that the industries carried on in the interior virtually constitute the whole economic life of the colony. Thus, her exports of balata are negligible in comparison with those of her neighbours; and, except for a small but growing trade in the extraction of essence from her more easily handled rosewood trees, she makes no other appreciable use of her forest wealth. The same difficulties have hampered her gold-fields; their natural richness is counterbalanced by their inaccessibility, for many of them are far remote from civilization and may be reached only by rivers upon which the canoe ascends laboriously over an interminable series of dangerous rapids.

ii. *Inadequacy of the Labour Supply*

Finally, Cayenne has a very small population; and among the causes which have arrested development none has been more potent than the inadequacy of the labour supply, the lack of an efficient recruiting system, and the defective arrangements which prevail with regard to the organization and employment of such labour as exists. The economic crisis provoked by the emancipation of the slaves has persisted in varying degrees of intensity ever since; and the chief need of the country has been the replenishment of the labour market and the creation of an

agricultural population. The devices by which similar needs have been relieved in the neighbouring colonies have failed in Cayenne; and the failure has been intensified by the gold fever which has been epidemic in the country for over half-a-century, and has diverted to the "placers" what little remained of capital, labour, and enterprise.

Of the existing population, the aboriginal Indians are of small economic value, the Bush negroes hold aloof from the economic life of the colony too much to exercise a helpful influence upon it, and the descendants of the freed slaves have inherited from their fathers an aversion to work on the land, which they regard as incompatible with the dignity of the free man and the citizen. In these circumstances it has been of supreme importance to the colony that she should be endowed with an efficient system of indentured immigration; but an attempt to continue the supply of imported negroes had to be stopped by the French Government because of the abuses to which it gave rise in Africa, and, for somewhat similar reasons, Great Britain was constrained to denounce the convention which had sanctioned recruitment by the French in her East Indian dominions.

iii. *The Penal Establishments*

Nor has Cayenne ever derived any material benefit from her Penal Establishments. The convicts, it is true, help to carry out public works, make some contribution to forest and agricultural development upon the penal concessions, and may be hired for private service under contract; but they are rated low as labourers, and their limited utility in no way makes amends for the disadvantages of their presence. A report on colonial railways made in 1905 by M. Bourrat, a deputy, said: "Our penal colonies seem to be under the spell of an evil destiny. It is strange, to say the least, to find that the very regions where for

years the Government has had at its disposal a considerable labour force destined by the very conditions of its existence to the execution of public works, are just those which stand out from amongst our colonial possessions as being particularly destitute of means of communication Rightly or wrongly, moreover, the presence of criminals in a colony causes it to be regarded with disfavour, and helps to keep away colonists and capital. Our two penal colonies most certainly suffer in these respects.”¹

iv. *Possibilities of Development*

If present prosperity be the true measure of a country's capacity for expansion, then Cayenne is much behind her neighbours in fitness to turn her potentialities to account. Yet the natural wealth of Cayenne is great. With money and labour to drain the swamps she might redeem thousands of acres of fertile land, where sugar, cacao, coffee, fruits, spices, and other colonial produce would grow in abundance and yield valuable crops. With the same assistance she could turn to account the immense and varied resources of her unlimited forests. Of mineral development the future is, perhaps, more obscure; there are some who think that Guianese gold-fields have seen their best days; but others believe that, if once railway connections were to render access to the interior rapid, the carriage of stores cheap, and the transport of machinery possible, the output of the present workings might be largely increased, and great profits derived from mineral sources which are now untapped.

¹ R. Cuvillier-Fleury, *La Main-d'œuvre dans les Colonies françaises de l'Afrique occidentale et du Congo*, pp. 150-152. Paris, 1907.

B. DUTCH GUIANA

i. *Limited Prosperity of the Colony*

If the exports of Dutch Guiana do not much exceed in value those of French Guiana, and are greatly inferior to those of British Guiana, it may at least be said of them that they have a proportionately wider basis, for there is no dominance here of any one article, as of gold in the one case and of sugar in the other. Surinam has an agricultural industry, the prosperity of which would have been greater had not the exceptional fertility of the soil been neutralized in recent years by the loss of crops through virulent disease. In spite of much better facilities than Cayenne can offer, the colony suffers from inadequate means of external and internal communication; in spite of a more active land settlement policy than that of British Guiana, she suffers from want of population; and she suffers also from want of capital supplies and other material support from the mother-country, which has reserved her favours for her dominions in the East. The rivers of the colony are, it is true, numerous; the coastal region is furnished with a remarkable network of waterways; and the river services maintained by the Government are not inadequate, having regard to the thinness of population and to agricultural and industrial conditions. But, broken as they are by dangerous rapids and often rendered almost useless by the variations of their water supply, the upper rivers are but imperfect arteries of communication with the forest and mineral regions; their deficiencies are by no means counterbalanced by the one railway, of which the utility is limited; and the difficulty and cost of transport are serious obstacles to development. Not less serious is the lack of population. Want of population, and especially of labour, said an official report for 1908, is a complaint from which Surinam has suffered much in the past, and beneath which she

might still succumb. By the care with which Hindu and Javanese immigration has been organized, and by the excellence of the land settlement policy framed to accompany it, Surinam has nevertheless been spared the disasters which have attended the failure of immigration in Cayenne; more than 50,000 immigrants have been introduced since the middle of the last century; and, although the conditions of indenture of the British Indian coolie have been less favourable than those enjoyed in British Guiana, the Government has been able to record a satisfactory growth in population, a distinct improvement in economic conditions, and a steady increase in the general welfare.

ii. Indications of Increased Prosperity

If the circumstances of the nineteenth century be compared with those of to-day, it will certainly appear to the credit of Dutch perseverance that Surinam should have saved so much as she has from the imminent wreck of her fortunes. If her agricultural operations cannot compare in magnitude with those of British Guiana, where the enterprise of the planters has kept large areas under the sugar-cane, despite all the obstacles presented by the dislike of the negroes for work on the land and the serious competition of beet sugar, yet they make up in a measure by their variety for what they lack in extent. The soil in Surinam is of remarkable fertility; the average yield of the cane fields is relatively higher than in British Guiana; and in addition to an experiment, somewhat unfortunate, it is true, in the growth of bananas for export and to a small but expanding cultivation of coffee, many hundred acres are devoted to cacao, which will once again become a valuable crop when the diseases which have lately ravaged the fields have been successfully eliminated. The decline, due to scarcity of labour and capital, which threatened agriculture with extinction in the nineteenth century, has been arrested, and since the beginning of the

present century there have been indications of renewed prosperity. Ample supplies of capital are still to seek, but immigration has eased the labour situation, the cultivated area is again expanding, agricultural exports are once more rising, and there are grounds for the belief that the policy of the Colonial Government and the patience and resource of the planters will recapture something of the lost prosperity. Amongst the forest industries a striking expansion has taken place in the collection of balata, exports which were worth on the average £57,000 a year at the beginning of this century rising to over £250,000 in the period 1910-14.

iii. *Future Possibilities*

In the matter of future possibilities Surinam has no cause to fear comparison with her neighbours, for here, too, are the great areas of rich alluvial soil, the unlimited forests, the savannahs, and the valuable mineral deposits which characterise the whole Guianese region. But although the opportunities may exist, there can be no thought of using them in the conditions which prevail to-day. The management of the Surinam Bank has lately said of the economic conditions that "there will be lasting improvement when agriculture attains a certain degree of prosperity. The gold and balata industries do not suffice, and agricultural development is needed to raise the colony to prosperity." In his report of 1910-12 His Majesty's Consul expressed the view that Surinam had failed to keep up with the rapid progress of the last fifty years in other tropical countries. Pointing to the absence of roads, the fluctuating utility of the rivers, the character and course of the one railway, and the scarcity of labour, he declared that the country presented obstacles to progress which could be removed only by the expenditure of much money, which is not forthcoming. The result is that her great natural riches cannot be turned to proper account.

C. BRITISH GUIANA

i. *Prosperity of the Colony*

British Guiana has some pretensions to the possession of a road-system in the occupied districts. Her rivers are more readily navigable in their lower reaches than those of French Guiana; and, if she has not the extensive network of waterways which is so remarkable a feature of the coastal region in Surinam, yet the upper reaches of her rivers appear to experience far less of those great variations in water level by which the streams in the Dutch and French colonies are deprived of their utility for considerable periods in the year. Her ocean communications are so greatly superior that she acts as a distributing agency to her neighbours; and, whereas the ports of French Guiana are visited annually by 55,000 tons of shipping, approximately, and those of Surinam by 180,000 tons, her harbours are entered by vessels with a tonnage of 452,000 tons. Until the recent suspension of immigration, she has also enjoyed a great advantage in the vital matter of labour supplies—there were over 130,000 East Indians in the colony at the end of 1915—and by her greater prosperity she offers more opportunities, and therefore more inducements, to free immigrants.

ii. *Exports contrasted with those of French and Dutch Guiana*

As regards export trade, which is a certain indication of the condition of a plantation colony, the exports of the Dutch and French colonies are worth on the average half-a-million a year or less, whilst those of British Guiana are worth two millions and more. Whilst the agricultural exports of Cayenne are negligible, and those of Surinam are worth about £270,000, hers are worth upwards of a million and a half. In the value of forest exports there is not much difference between the British and Dutch colonies, taking the average of

fifteen years at the beginning of this century, although it must be said that Surinam has lately made much more rapid progress than British Guiana in the collection of balata. In the matter of gold export the advantage is with Cayenne, which exports gold to the value of about £400,000 a year, whilst British Guiana exports the metal to the value of about £250,000, and Surinam exports it to the value of about £100,000; but Cayenne loses almost as much as she gains by the way in which this one industry dominates her economic life.

iii. *Future Possibilities*

British Guiana is thus in a better position to turn her future possibilities to account, and those possibilities are considerable. Sugar production has great prospects, for there are no less than one and a half million acres of good sugar-cane land over and above the area now in cultivation; and large as the present output looms in the Guianese economy of to-day, it would seem quite insignificant, if the greatest amount of suitable land were utilised with the maximum of capital, labour, and enterprise. It has been officially declared that the maximum output of the colony may be fixed at two and a half million tons a year, and it is believed that such a result would far surpass anything which could be achieved in any other part of the British Empire. A considerable area is also suitable for the growth of rice; and the progress already made, by which a large import has been superseded by an export worth £200,000 a year, suggests interesting possibilities in the future. The forest wealth of the country is also of scarcely calculable value; and if gold is less plentiful than in Cayenne, yet the mineral resources in general would appear to be more varied than those of the adjoining colonies.

iv. *Undeveloped Wealth*

The more remote possibilities of British Guiana cannot be made the subject of a precise calculation.

The country has an estimated acreage of 57,000,000 acres; of this 7,000,000 acres are mountain and high plateau region, 3,000,000 are pastoral savannahs in the interior, 36,000,000 are forest-clad, rolling, and hilly land, and 11,000,000 are land which is easily accessible and suitable for arable and pastoral pursuits. At present out of all this area only a small portion of the alluvial fringe along the coast is cultivated; yet the old planters found the richest soil up the rivers, and men who have lived in the interior assert that the interior lands are far more productive than the sea coast, and that, too, with half the labour. So far as the possibilities of the country are limited, therefore, it is rather by want of capital, uncertainty in the labour supply, and inadequacy of the means of communication than by anything in the character of the country itself. It has been declared by a competent authority¹ that British Guiana could support a population fifty times as large as that which now inhabits the colony. "The undeveloped Crown lands of British Guiana," said a former Commissioner of the Imperial Department of Agriculture, "are among the richest existing in any part of the Tropics. It is almost inconceivable that such lands should have been so long neglected, while comparatively poorer and less accessible lands are being sought for in the heart of Africa or in such distant parts of the world as Borneo and New Guinea. I know nowhere of such an extensive area of rich and fertile lands with a comparatively healthy climate and within easy reach of good markets as in British Guiana. They can grow nearly every tropical product in demand either in the New World or in the Old."

¹ Watson Griffin, Canadian Special Trade Commissioner, *Canada and the British West Indies*. Ottawa, 1915.

D. TRADE INTERESTS IN THE GUIANAS.

A few words may be added as to trade interests¹ in the Guianas regarded as a whole. The British colony being the most prosperous, and trade tending to follow the flag, the United Kingdom and the British possessions take the lion's share in the trade as a whole. They supply imports to the value of £1,260,283, or 46 per cent. of the total imports, purchase exports to the value of £1,773,055, or 60 per cent. of the total exports, and thus handle a total trade of £3,033,338, or 53 per cent. of the whole. Next in importance comes the trade of the United States, which, although unsupported by territorial interests, is considerably greater than the share of Holland or of France. The United States supply imports to the value of £625,394, or 23 per cent. of the total imports, purchase exports to the value of £425,711, or 14 per cent. of the total exports, and thus handle a total trade of £1,051,105, or 18 per cent. of the whole. In addition there is a further trade between the United States and the Dutch and French colonies, which, since it passes by transshipment through British colonies for want of direct communication, is credited to British possessions in the official statistics. On the other hand, the United States are losing their hold upon the most valuable portion of their Guianese trade—that with British Guiana—in consequence of the effect of the Preferential Tariff Agreement between that colony and Canada and for other reasons. French possessions supply imports to the value of £389,475, or 14 per cent. of the total imports, purchase exports to the value of £333,816, or 11 per cent. of the total exports, and thus handle a total trade of £723,291, or 13 per cent. of the whole. Dutch possessions supply imports to the value of £390,273, or 14 per cent. of the total imports,

¹ The figures given in this Note are averages for the decennial period for 1905-14. For other figures see the statistical tables appended to No. 135 of this series, *British Guiana*, No. 136, *Dutch Guiana*, and No. 137, *French Guiana*.

purchase exports to the value of £271,872, or 9 per cent. of the total exports, and thus handle a total trade of £662,145, or 12 per cent. of the whole. It will be observed that the share of the United States, though amounting in value to only about one-third of the British share, is approximately half as large again as that of either the French or the Dutch. In view of the fact that the United States have no territorial interests in the region, the comparative magnitude of their commercial interests is the most interesting feature of the trade of the Guianese colonies regarded as a whole.

AUTHORITIES

See the bibliographies appended to the books in this series on British (135), Dutch (136), and French Guiana (137).

MAPS

The Guiana Colonies are covered by Stanford's map of *Guiana and Venezuela* (London Atlas Series), in one sheet, 83½ miles to one inch.

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BRITISH GUIANA

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I. GEOGRAPHY PHYSICAL AND POLITICAL

(1) POSITION AND FRONTIERS

BRITISH GUIANA is the westernmost of three colonies, lying adjacent to each other on the north-east coast of South America, which belong respectively to Great Britain, to Holland, and to France. The British colony, which occupies an area of 89,430 square miles, lies between 1° and $8^{\circ} 26'$ north latitude and $55^{\circ} 53'$ and $61^{\circ} 33'$ west longitude; on the east and south it marches with Dutch Guiana and Brazil respectively, the Corentyne River forming the boundary with the former, and on the west with Venezuela and Brazil.

The western boundary starts from the coast at Punta Playa in about 60° west longitude, runs for a short distance south-eastwards, crosses the Barima River, and then strikes to the south-west as far as a point on the Sierra Imataca in about 61° west longitude. It then turns in a south-easterly direction and follows that range to a point about $60^{\circ} 20'$ west, where it bends south-west again and follows the courses of the Acara-bisi, the Cuyuni, and the Wenamu rivers to the source of the latter (about $61^{\circ} 30'$ W.). From here the boundary runs in a straight line south-east to Mount Roraima, near the Brazilo-Venezuelan frontier, and thence in a generally south-south-easterly direction, partly following the courses of the Mahu and upper Takutu rivers and the range of the Uassari or Moon Mountains to the west end of the Sierra Acarai in about $59^{\circ} 30'$ west longitude and $0^{\circ} 30'$ north latitude.

The southern boundary then follows the watershed of the Sierra Acarai to a point in about 56° west longitude near the source of the Cutari River, one of the head streams of the Corentyne.

The western boundary has a length of about 600 miles, and the eastern and southern of about 250 miles each.

(2) SURFACE, COAST, AND RIVER SYSTEM

Surface

The surface of the colony may be divided roughly into three belts: (1) the cultivated area of some 300 square miles known as the coast lands or front lands; (2) savannahs, covering 11,700 square miles; and (3) forest lands, which include the mountain regions and comprise about six-sevenths of the whole colony.

(1) The cultivated area lies in the alluvial belt along the coast and up the estuaries of the rivers, and varies in depth between 5 and 60 miles. This belt is to a considerable extent below the level of ordinary spring tides, and is liable to flooding at high water, so that areas intended for cultivation have to be reclaimed by dykes.

(2) Savannahs are of two kinds, swamp savannahs and back-country savannahs. A large tract of swamp savannah extends east and west of the Berbice for some 50 miles behind the alluvial belt, tapering to a point some 100 miles up stream. The back-country savannahs occupy a tableland about 300 to 400 feet above sea level, which covers some 6,000 square miles, and is undulating and broken by rocks. Clumps of trees rise here and there, and palms, ferns, and marantas grow in the depressions; but elsewhere wiry sedges and hard herbaceous plants predominate.

(3) The forest region is a portion of the great tropical forest of South America, where a high degree of humidity prevails and growth is consequently luxuriant, although on the slopes and sand dunes sparse trees and low bushes are found. Part of this belt has a sandstone soil, and this district possesses an abundance of springs and streams, and is rich in flowering plants and ferns.

Two parallel mountain systems, rising in a succession of terraces, cross the colony from west to east. The greater, which rises in Mount Roraima to a height of 8,635 ft., is that of the Pacaraima and Merume; the lesser includes the Canuku mountains. The southern frontier range of the Acarai rises in places to a height of 2,500 ft.

Coast

The coast has a length of some 250 miles, and has no striking headlands or bays, the only indentations being the estuaries of the rivers. The shore is generally low and swampy.

River System

The most important rivers of British Guiana are the Essequibo, the Corentyne, the Berbice, and the Demerara. Of smaller rivers the chief are the Waini and the Pomeroon. With the exception of the Corentyne, all these rivers rise in British Guiana and flow through it in roughly parallel courses from south to north.

The *Essequibo*, with its left bank tributaries, the Cuyuni (Cuyuwini), Mazaruni, Potaro, Siparuni, and Rupununi, drains considerably more than half of the total area of the colony. Its total length is over 600 miles. The estuary has a width of 14 miles, and contains three considerable islands, the largest of which is about 12 miles long.

The *Corentyne* does not receive many tributaries, and the largest in British Guiana is the New River. About 52 miles from the mouth of the river occur sandhills about 60 ft. high, and above this the country through which it flows is uninhabited.

The importance of the *Berbice* lies in the fact that it is navigable for large craft for a longer distance than any other river in the colony. There are sugar plantations on its banks in the neighbourhood of New Amsterdam, but for the most part the land on the lower river is low-lying, and the banks are clothed with

stunted trees. At about 46 miles from the mouth the land rises, and for 4 miles the river flows through an open grass-clad stretch of savannah, the country then merging again into forest.

The *Demerara*, though commercially the most important river in the colony, is relatively a small stream, with a total length of only 200 miles. Large vessels can pass its bar with safety, however, and Georgetown, the capital and chief port, is within its mouth.

The *Waini* and its tributary the *Barama* flow through forest-clad country; the former river is about 2 miles wide at its mouth. On the southern side of the *Waini*, 3 miles from its mouth, is the *Mora Passage*, a deep waterway about 7 miles in length, through which steamers can pass into the *Barima River* at *Morawhanna*. The *Barima*, which flows into the sea in *Venezuela*, gives access to the principal gold-bearing areas of the North-West District.

The *Pomeroon* or *Moruka* drains the district between the *Essequibo* and the upper *Waini*. The low, flat, alluvial lands on the lower river are among the most fertile in *British Guiana*, and flourishing farms extend as far as *Macassema*, about 34 miles from the sea. The *Pomeroon* is navigable for steamers beyond *Macassema*.

(3) CLIMATE

In the coastal and forest regions the mean shade temperature is about 79° F. (26° C.), and even at night seldom falls below 73° F. (23° C.). The hottest months are August, September, and October, but the maximum shade temperature during this period seldom reaches 89° F. (31.6° C.). In the savannah region the range of temperature is somewhat greater, and the hot season falls in October and November.

From June to November variable winds prevail, but during the rest of the year the north-east trade wind blows with comparative regularity and moderate force. Although there is bright sunshine on nearly every day in the year, the constant winds temper the sun's heat

and make the climate very attractive in comparison with that of other tropical countries.

The mean rainfall for the whole country in 1916 was 92.13 inches. In the coastal region there are two wet and two dry seasons, the former occurring from mid-April to mid-August and from mid-November to the end of January. Berbice County has an average rainfall of 91 in. (2,311 mm.), Demerara County of 95 in. (2,413 mm.), and Essequibo County of 101 in. (2,565 mm.). In the savannah region of the interior it would seem that the average rainfall is about 50 in. In the forest region the rainfall is regularly distributed throughout the year, and it rarely happens that ten days pass without rain. The average yearly fall varies from 84 in. to 159 in.

(4) SANITARY CONDITIONS

The climate is nowadays not unhealthy. The usual tropical complaints are found, but they are under control, and there is now no yellow fever, small-pox, or epidemic disease. A white man who settles in the colony, however, must expect to go through a few months' seasoning. For some years past anti-malaria and anti-mosquito measures have been generally enforced with evident success; quinine is sold at cost price in all post-offices and is distributed free to labourers on the estates. Ankylostomiasis is found on the plantations, but it has been lessened of late years by improvements in sanitation. Sickness of the low-fever type prevails among the negroes, and a severe form of ophthalmia is very common among the natives, and also affects travellers. There is a leper asylum at Mahaica.

In Georgetown, which stands on land below high-water mark, the problems of draining and water supply have been attended by peculiar difficulties. Since 1913, however, an ample supply of exceptionally pure water has been obtained by the sinking of artesian wells.

(5) RACE AND LANGUAGE

The population of British Guiana is composed mainly of aboriginal Indians or Bucks, Europeans, African negroes, Portuguese from Madeira, coolies from the East Indies, Chinese, and half-castes. The true natives of the country are the Buck Indians, who are the aboriginal inhabitants of the three Guianas.

At the census of 1911 the population was estimated at 296,041, the chief elements in it being as follows:— Europeans other than Portuguese, just under 4,000, or 1·3 per cent. of the total population, consisting of British colonists and their descendants, and of some families of Dutch descent; Portuguese, 10,000, or 3·4 per cent., of whom over three-quarters were born in the colony; East Indians, 126,000, or 42·7 per cent., of whom more than half were born in the colony, many being settled in the region of the Corentyne; Chinese, 2,600, or 0·89 per cent., of whom three-quarters were born in the colony; negroes, 115,000, or 39 per cent., less than 10 per cent. being foreign born; mixed races, 30,000, or 10 per cent.; aborigines, who are returned at about 7,000 for the settled lands and 13,000 for the unfrequented forest region, this total, however, being purely conjectural. There are four tribes of these native Indians in British Guiana, each with its own language. With the exception of the remaining Caribs, who are hardy and warlike, they are few in numbers, and of trifling economic importance.

In 1917 the population was estimated to have increased to 313,859.

(6) POPULATION

Distribution; Towns and Villages.

The bulk of the population is concentrated within the alluvial coastal belt between the Pomeroon and Corentyne rivers; within these limits are the two chief towns of the colony, most of the villages, and nearly all the sugar estates, roads, and railways. Of the total

population in 1911, which, as has been said, was returned at 296,041, 22·34 per cent. were then resident in the towns and 77·66 in the country. The distribution by counties was as follows:—Demerara County, 175,596, or 59·31 per cent.; Berbice County, 65,862, or 22·25 per cent.; and Essequibo County, 54,583, or 18·44 per cent. The two chief towns are Georgetown, the capital, with a population of 57,577, and New Amsterdam, with 8,604. The population of the “villages and settlements,” which have been a very important factor in the development of the country, amounted to 158,938, leaving a total of 70,922 for the rest of the colony.

Movement

In 1831 the population was estimated at 104,000, and it had nearly trebled at the census of 1911. The increase is due almost entirely to immigration, and especially to that of East Indians, some 250,000 of these having entered the colony since 1834. The negroes show no tendency to increase in numbers. In 1831 there were 90,000 negro slaves and 10,000 free black and coloured people, and between 1834 and 1884 there was an immigration of well over 50,000 Africans and West Indian islanders, yet in 1911 the negroes amounted only to 115,000. The mixed races show some increase, but for the whole country the mean percentage of births is little, if at all, in excess of that of the deaths. It is therefore apparent that immigration is the dominant element both in the position of man in the colony and in the economic development of the country.

II. POLITICAL HISTORY

CHRONOLOGICAL SUMMARY

Essequibo and Demerara

- 1738 Gravesande Governor-General of Essequibo.
- 1739 Horstman's explorations of the interior.
Mining expedition explores the Cuyuni.
- 1746 Settlement on the Demerara River.
- 1750 Governor of Demerara Settlement appointed.
- 1773 Demerara becomes a separate colony.
- 1780 Holland joins France and Spain against Great Britain.
Capture of Demerara, Essequibo, and Berbice by British.
English Governor sent to Demerara.
- 1782 French gain possession of the Three Rivers.
- 1783 Treaty of Paris: the Dutch colonies restored.
- 1784 The colonies evacuated.
- 1789 Report on the West India Company.
- 1792 Demerara and Essequibo directly governed by the State.
- 1793 Van Grovestins appointed Governor of Essequibo and Demerara.
- 1795 The British ship *Zebra* demands the submission of the colonies to the Prince of Orange.
- 1796 Seizure of the colonies by the British.

Berbice

- 1678 Berbice recognised as property of Van Peere.
- 1689 Berbice attacked by French corsairs.
- 1712 Berbice attacked by French squadron.
- 1713 Berbice handed over to Marseilles merchants, and sold to Amsterdam merchants.
- 1720 New company formed.
- 1732 Charter granted to the Berbice Company.
- 1760 Van Hoogenheim made Governor of Berbice.
- 1762-63 Slave revolts in Berbice.
- 1781 Berbice captured by the English.
- 1782 French squadron seizes Berbice.
- 1783 Berbice restored to the Dutch.
- 1791 States-General refuse to renew charter of West India Company.
- 1796 Berbice surrenders to the English.

British Guiana

- 1802 Peace of Amiens. Dutch colonies restored.
- 1803 England again seizes the colonies.
- 1807 Abolition of slave trade.
- 1812 Union of Demerara and Essequibo.
- 1814-15 The colonies pass under British rule.
- 1823 Civil rights conferred on slaves. Insurrection of slaves.
- 1833 Abolition of slavery.
- 1834 All slaves declared free.
- 1838 Indian coolies first introduced.
- 1853 Chinese labour introduced.
- 1854 Barkley's unfavourable report on the colonies.
- 1884 Gold rush.
- 1893 Report of Surgeon-Major Comins.
- 1897-99 Venezuelan boundary arbitration.
- 1901-04 Brazilian boundary arbitration.
- 1910 Report of Lord Sanderson's Committee.

(1) UNDER DUTCH RULE (1674-1796)

(a) *Essequibo and Demerara*

WITH the peace of 1674 the Dutch West India Company had a fresh lease of life, being reconstituted under a new charter. The colony of Essequibo was thoroughly re-established and its control extended. Officials named post-holders were placed at fortified posts. Plantations and settlements were made on the lower reaches of the Upper Essequibo, on the Mazaruni and on the Cuyuni; and other plantations began to creep down the shores of the estuary of the Essequibo, and also farther west upon the Pomeroon. Soon afterwards great activity was shown in opening up trade by way of the River Essequibo and its tributary the Rupununi to the Rio Branco, and even as far as the Rio Negro itself.

Later the Essequibo colony owed much to the administrative ability and devoted labours of a great Governor, Laurens Storm van 'sGravesande. He went out as Secretary to the colony in 1738, and was Governor for thirty years. His voluminous and carefully written despatches during the whole

of that period have been preserved and are now in the British Record Office. To his long and able administration, in the face of countless difficulties and the neglect of the Government at home, the colony we now call British Guiana probably owes its existence. He consolidated the Dutch dominion by the encouragement he gave to cultivation (especially of sugar) and trade, by his firm resistance to all Spanish encroachments on the frontiers, by his conciliatory policy in dealing with the Indian tribes, by his exploration of the far interior, and above all by his foundation of the settlement on the Demerara.

It was at his suggestion that an official named Horstman was sent in 1739 to explore the far interior and discover the true facts concerning the connection between the Essequibo and Amazon waterways. Horstman ascended the Essequibo and the Rupununi, passed by the Pirara portage into an affluent of the Mahu, and by the Mahu into the Rio Branco, and so to the Rio Negro, where he was made prisoner by the Portuguese and passed into their service. This expedition, however, and Horstman's map and narrative¹ laid the foundation of the true knowledge of the geography of this hitherto unknown interior of Guiana.² At the same date, 1739, a mining expedition was sent up the Cuyuni by Gravesande, which led to the discovery of workable copper mines and to a further geographical knowledge of the country westwards.

Up to 1746 the Dutch had merely maintained an ordinary trading post on the River Demerara. Gravesande saw the great advantages which the river would afford to a colony on its banks; and the settlement which, under his auspices, began in that year met with such success that within five or six years the new colony began to outstrip that of Essequibo. In 1750

¹ Still in existence.

² The first correct delineation of this part of Guiana was made by the French cartographer, D'Anville, who had Horstman's MS. in his possession. D'Anville's map was published in 1748.

such progress had been made that the settlement received a Commander of its own, subordinate to the Director-General of Essequibo, the first Commander being Gravesande's son, Jonathan. It is interesting to note here that this flourishing condition of the Demerara colony was largely the work of English settlers from Barbados. It was the capital and the activity of a father and son, both named Gedney Clarke, that erected the first plantations and sugar mills on the Demerara River; it was through their energy and influence at the time of the great slave revolt in Berbice in 1763 that a force of 200 men was sent to Demerara by the Governor of Barbados, which with the help of the native Indians effectually prevented the spreading of the revolt to Demerara and Essequibo. Nor was this influx of English settlers confined to the Demerara; numerous plantations on the Essequibo estuary, both in the islands and on the shore, were the property of Englishmen.

The Director-General was assisted in the discharge of his duties by two bodies, the Court of Policy and the Court of Justice. The functions of the Court of Policy were mainly the care of the trade interests of the West India Company, and included the giving of grants of land, of permits to cut timber, and similar matters. Those of the Court of Justice are defined by its title. There was also a special Court (*recht-bank*) in Demerara for the trial of small matters, with an appeal to the higher Court sitting at Fort Zeelandia, in Essequibo.

It had always been the Dutch policy in Guiana to cultivate friendly relations with the native Indian tribes, especially in Essequibo with the Caribs and Arawaks; and Gravesande spared no pains in carrying out this policy throughout the whole of his long period of office. The success which attended his efforts was shown by the way in which the Indians at the time of the slave revolt in Berbice rallied to the help of the Dutch, and took a considerable part in the suppression of the rising.

Gravesande was succeeded by Hendrik Trotz, in the beginning of whose term of office an important step was taken by the Council (the Ten) of the West India Company. It was resolved that Demerara should be erected (1773) into a separately organized colony. The first Commander of Demerara under this arrangement was Paulus van Schuylenburg. The supremacy of Essequibo was, however, still recognised, since in matters affecting the two colonies the Courts of Policy and of Justice of both districts met for joint consultation at Fort Zeelandia. Trotz continued his predecessor's policy of maintaining close relations of friendship with the native tribes, and in 1778 he presented the chiefs (or Owls, as they were called) of the friendly tribes with staves of office. These were much prized, and the system was continued by the British, and is still in force.

On December 20, 1780, Holland joined the alliance of France and Spain against Great Britain at the moment when that country was hard pressed by the revolt of its North American colonies. One of the first results of hostilities was the capture of Demerara, Essequibo, and Berbice by the British Fleet; and in the following October an English Governor, Kingston, arrived at Demerara. Finding that the seat of government had been placed by the Dutch inconveniently high up the river, he resolved to move it nearer to the mouth, and he had actually begun to build public offices on the spot where Georgetown now stands when a strong French squadron appeared, and compelled him to surrender (March 1782). The Three Rivers thus passed into French possession. During his short term of office, Governor Kingston had interfered as little as possible with the existing system of administration, and had made himself acceptable not only to the English planters but to the Dutch settlers also. During the two years of occupation by the French, these colonies of their Dutch allies were treated just as if they were conquered territories, with the result that French methods were unfavour-

ably contrasted with English, and generally disliked. By the Treaty of Paris (September 1783) the colonies were restored to the Dutch, and were evacuated on March 6, 1784. One permanent result of the French rule was the continuation of the work of building a seat of government (initiated by Governor Kingston) near the mouth of the river, and the erection of a fort to protect the entrance, named by them Fort Dauphin, but renamed by the Dutch Fort William Frederick, a name that it still bears. As there could be no question as to the advantageous site of the new capital, its construction was continued by the Dutch authorities, and it was called Stabroek.

The first result of the restoration of the colonies was discord and chaos. The colonists were unwilling to be again placed under the arbitrary control of the practically bankrupt West India Company; and, above all, they resented a high-handed attempt of the Company to create a new form of government in which the old elective element was to be abolished. Petition after petition was sent to the Stadholder, the States-General, and the Ten, protesting against the system of government which had been imposed upon the colony. There was widespread insubordination, with a general refusal to pay the taxes. The result was that in 1788 the States-General took up the question, and at their request the Stadholder appointed two Commissioners—Baron Van Grovestins and Willem Boey—to go out with full powers to enquire into all grievances and disputes and restore harmony in the colonies. Their report in the autumn of 1789 was unfavourable to the Company; and, as its charter expired in 1791, the application of the Ten for its renewal was refused, and from January 1, 1792, Demerara and Essequibo were governed directly by the State, and a Colonial Council was appointed to take the place of the defunct company. The title of Director-General was abolished; and in 1793 Baron Van Grovestins went out as Governor of Essequibo and Demerara, having his seat of government at Stabroek,

where the Court of Policy and the Court of Justice for both Demerara and Essequibo henceforth met.

The conquest of Holland in 1795 by the French revolutionary armies, the flight of the Stadholder, and the establishment of the Batavian Republic once more brought disorder and discord into the colony. In May 1795 the British ship *Zebra* arrived with despatches informing the Governor that the Prince of Orange commanded the authorities of Demerara, Essequibo, and Berbice to admit British ships of war and a force of British troops into the rivers in order to defend them from French invasion. But French republican ideas had already taken deep root in the colonies, and the majority of the Court of Policy, in opposition to the advice of the Governor, refused to obey the Prince. Upon this the Governor abandoned his post and went on board the *Zebra*. The Court of Policy undertook the administration, but had to deal with violent disturbances among the settlers, accompanied by a negro revolt; and it was only after considerable bloodshed that order was restored. Antony Beaujon, who had been appointed Governor by the Batavian Republic, arrived later in the year; and the rival parties became outwardly quiescent, both republicans and Orangists expecting, but with very different feelings, the early return of the British Fleet.

They had not long to wait. On April 15, 1796, three British men-of-war, accompanied by a number of small vessels conveying 1,200 troops, set sail from Barbados, and anchored on April 20 off the mouth of the Demerara River. The surrender of the colony was demanded; and, being unable to offer any effective opposition, Governor Beaujon had no alternative but to capitulate. The British were, indeed, welcomed by a considerable part of the inhabitants, and the Dutch garrison to a man entered the British service as "The Loyal Orange Battalion." The favourable conditions offered by the British commander, Major-General Whyte, were accepted (April 22). Complete security was given for public and

private property and for personal freedom, with the same trade privileges and rights as those possessed by British subjects in the West Indies. The Governor, the officials, and Councillors were to remain in office, but were required to take the oath of allegiance to the King of Great Britain until the restoration of the Stadholder to Holland. General Whyte then despatched a frigate with a body of troops to Berbice, which surrendered on the same terms as Demerara and Essequibo.

(b) *Berbice*

Berbice was the only one of the Guiana colonies that escaped invasion and devastation during the Anglo-Dutch war of 1665-67. It remained after the Peace of Breda, as before, the property of the Amsterdam family, Van Peere. The dissolution of the West India Company at the end of 1674, and the erection of a new company with a fresh charter, raised the question of the position of this colony. The patrons claimed the same rights and liberties as before, but the Council of the new Company held that Berbice, being comprised within the limits of their charter, stood in the same relation to them as Essequibo. At last, in 1678, through the mediation of the States-General, Berbice was recognised (under specified conditions as to good government and the payment of certain dues) as the perpetual (*onsterflijk*) inheritance of Van Peere and his descendants; and from 1678 onwards a regular series of Commanders was appointed and Courts of Policy and of Justice formed.

From 1678 to 1712 little is known of Berbice, except that it suffered from a raid of French corsairs in 1689. A much more formidable attack was made by a small French squadron under the command of Baron De Mouans on November 8, 1712. This squadron formed part of a larger fleet fitted out not by the State, but by some Marseilles merchants under Admiral Cassard; it was, in fact, a corsair fleet, whose object was plunder. The French demanded a ransom of 300,000 florins.

With the utmost difficulty 118,024 florins was raised, and a bill of exchange on the patrons, the Van Peeres, payable at sight in six months, was given for the balance. The invaders having thus squeezed out of the colony everything of value, sailed away (December 8), taking with them two of the Councillors as hostages for the payment of the bill of exchange.

The Van Peeres refused to honour the bill of exchange, on the ground that the Commander had no authority to give it, and that 118,000 florins was more than the colony was worth. The French plenipotentiaries at Utrecht pressed for payment, but did not succeed in obtaining it. In these circumstances the question resolved itself into a matter of legal process; and on September 13, 1713, the colony was handed over, in settlement of the debt, to the Marseilles merchants who had fitted out the expedition. Berbice might thus have become a French colony; but the French company at the end of an exhausting war had no means for exploiting their new possession, and preferred to negotiate its sale to four Amsterdam merchants for 108,000 florins.

This limited proprietorship was of short duration. The ruined state of the colony required more capital for its restoration, and in 1720 it was proposed to form a new company, with a capital of 3,200,000 florins. The first care of the Directorate of the new Company was to obtain an adequate supply of slaves. But here the Company met with the usual difficulty, in that the West India Company had the monopoly of the slave trade, and an arrangement had to be made with them, which led during a series of years to constant wrangling and disputes. At last the Directors made application to the States-General for a special charter, which was granted to them (December 6, 1732) on condition that the navigation and trade of the colony should be thrown open to all inhabitants of the United Provinces. The administration of the colony was to be in the hands of a Governor appointed by the Directors and of a Council (later Court of Policy) of six persons,

who should administer justice in criminal cases. For civil justice a special Court of six persons was created, under the presidency of the Governor. At every vacancy the Governor was to nominate two persons, of whom the Court of Policy chose one. Appeals could be made to the States-General.

The colony now began to make considerable progress. According to a map¹ of the year 1740 there were ninety-three plantations on the River Berbice and the Wironje Creek, and twenty on the River Canje. There were no company plantations on the Canje; all on that river belonged to "free" planters. The seat of government was at Fort Nassau, high up the river; and close to it had arisen a village named New Amsterdam.

The Berbice Company did fairly well; but during its first thirty years its prosperity was not great. Parsimony ruled in the directorate, with the usual consequences; and none of the Governors sent out before 1760 were men of any special energy or initiative. In that year Wolfert Simon van Hoogenheim was appointed, a man destined to save the colony by his courage and ability from utter ruin and destruction. On his arrival he found that the entire population, but especially the white men, had been for some three years suffering from an epidemic of fever and dysentery, which had spared few and had carried off the late Governor and many others. At this time the total number of the garrison was sixty. The population consisted of 346 white men, 244 Indian or red slaves, and 3,833 negro slaves. These negro slaves had, in many cases, been very harshly treated by their masters, and suffered under many grievances.

In February 1763 a negro revolt broke out on two plantations on the Canje, and rapidly spread over the whole colony. The plantations on that river were plundered, and everywhere the Europeans who did not fly were murdered. Hoogenheim did all he could to

¹ The work of the engineer, Jan Daniel Knapp. now in the National Archives at The Hague.

save the fugitives and to defend Fort Nassau. But the fort, on inspection, was found to be untenable against attack; and, as the rebel forces were approaching, the Governor had to yield to the unanimous determination, both of soldiers and fugitives, to abandon it, take refuge on the ships, and go lower down the river. On March 8 the fort was abandoned and burnt, and Hoogenheim retired to Fort Andries, at the mouth of the Canje and close to the sea-shore, where the fugitives from the Canje plantations were already gathered (March 26).

Here for many months he held out with the aid of small reinforcements sent from the other Dutch colonies. At the end of December a body of 660 troops, despatched by the States-General in response to Hoogenheim's urgent request for help, landed in Berbice, and a united offensive was undertaken against the rebels. Some severe fighting took place; but before the end of March 2,600 ex-slaves had been captured, including the chiefs, and the rest driven into the bush. Severe reprisals took place, and many cruel executions, in spite of the Governor's counsels of moderation.

Hoogenheim, though in enfeebled health, at once set to work to restore the ravages wrought in the ruined colony. Only six out of the Company's eleven plantations were in a workable state, and sixty-one private plantations were either wholly or partially ruined. At first the Directors despaired of being able to find sufficient money for the rebuilding of the fort and the reconstruction of the colony, and the question of giving it up was seriously debated. But the States of Holland came to the rescue with a timely loan; and, although recovery was slow, the plantations were gradually brought back into working order.

In March 1781 Berbice was captured by the English and remained in English possession until January 1782, when a French squadron compelled the English garrison to surrender. The colony was restored to the Dutch at the Peace of Paris (1783). Once more the States of Holland came to the help of the Directors

with an advance of money sufficient to enable them to carry on the administration. One of the first steps taken was to abandon Fort Nassau and the adjoining village of New Amsterdam as lying too high up stream, to strengthen Fort St. Andries at the mouth of the River Canje, and to build on the point between that river and the Berbice between 1785 and 1790 another New Amsterdam as the seat of government.

In 1791 the States-General had refused to renew the charter of the West India Company, and had instituted a Council of the Colonies to take over the charge of the Company's colonial possessions; in the following years they put an end to the Directorate of Berbice and the Association of Surinam, which likewise passed under the control of the Council. Its rule was of short duration. The year 1795 saw the French conquest of the United Provinces and the flight of the Stadholder to England, followed by the formation of the Batavian Republic in close dependence upon France. On May 3, 1796, a British frigate with a detachment of troops appeared off the mouth of the River Berbice, being part of the squadron to which the colony of Demerara-Essequibo had surrendered on April 22. The surrender of Berbice was demanded in the name of the Prince of Orange; and the Governor Batenburg, lacking the means of defence, capitulated on the same easy terms as had been granted to the neighbouring colony.

(2) UNDER BRITISH RULE (1796-1914)

(a) *Transitional Period, 1796-1815*

The British, after their capture of the Dutch colonies, made no change in administration. They regarded themselves as caretakers in the interest of the Prince of Orange. Lieutenant-Colonel Hyslop, the commander of the force of occupation, was entrusted with large powers as the representative of the British Government. There was little friction, and all worked smoothly and well. It has already been pointed

out that the early progress of the Demerara Colony was due in no small degree to English enterprise and capital. Since then many English and Scottish settlers had taken up plantations, and no sooner were the colonies in British hands than a steady stream of immigrants from the British West Indies gave a great impetus to the trade and prosperity of the Three Rivers. The prices of colonial products ruling high at that time, large profits were made. According to the official maps drawn by Major Von Bouchenroeder in 1798 and 1802 there were (about) 400 plantations under cultivation in Demerara and Essequibo, and (about) 300 in Berbice. Almost the whole stretch of sea-coast was empoldered, and here cotton was almost exclusively grown. The town of Stabroek was considerably increased and many improvements in its sanitary conditions were carried out; and New Amsterdam, which, when the British came, was little more than a forest clearing, rapidly became a rising town.

This prosperous state of things was rudely interrupted by the Peace of Amiens (March 25, 1802). By Article III of this treaty Great Britain agreed to restore to the French Republic and to its Spanish and Batavian allies such of their colonies as had been conquered and occupied during the war, with the exception of Trinidad and Ceylon.

The Dutch colonies in Guiana were thus restored to the Batavian Republic. This was a great blow to the English settlers; for the new Dutch Governor, Antony Meertens, was hostile to them. The Englishmen were virtually informed that they must sell their plantations and leave the colony; and the shipping of produce to British possessions was prohibited. It seems strange that no clause had been introduced into the treaty forbidding such a course of action. But the interregnum was of short duration. War broke out again in May 1803, and in September the colonies once more passed into British possession.

The principal event of the period of English rule that followed was the blow which fell upon

the planters in 1807 and succeeding years through the abolition of the slave trade. Work in the sugar, cotton, and coffee plantations could only be carried on by black labour; and, the supply being stopped, the development of the grants of land that were being brought under cultivation was checked. Nevertheless, the prosperity of the colonies, especially of Demerara, continued, but did not advance so rapidly as before; and from year to year the English element in the population, and, still more, English influence, became predominant. One of the last acts of Governor Bentinck (April 28, 1812) was the issue of a proclamation uniting the two colonies of Demerara and Essequibo, the post of Commander of Essequibo and the separate Courts of Policy and Justice being abolished. This meant a considerable saving in salaries. The name of the capital of the united colonies was at the same time changed from Stabroek to Georgetown.

This change of name was actually made by Lieutenant-General Carmichael, Bentinck's successor. The new Governor was a strong man, and he had to deal with a difficult situation; for the Guiana colonies, which had not been hitherto troubled by enemy attacks or raids, suffered much from the audacity of American privateers, which, after the declaration of war in 1812 between Great Britain and the United States, infested the Caribbean Sea, and for a time practically blockaded the mouths of the Guiana rivers. Carmichael fitted out a number of armed trawlers, and succeeded in partially averting a serious peril. He was no less determined in dealing with the internal affairs of the colony. He remodelled the constitution of the Courts of Policy and of Justice, insisting that an English element should be introduced, and that the English as well as the Dutch language should be used in the Court of Justice. In Berbice the same process of gradual anglicization had been taking place. The Dutch Governor, Batenburg (1804-6), began it by abolishing the rights of

the Berbice Company, and declaring that their plantations (*societeits-plantagien*) and other possessions had become the property of the British Government.

The news of Napoleon's abdication and of the creation of the Kingdom of the Netherlands under William I caused for a time much perturbation in the minds of the white settlers in the two colonies, whether English or Dutch. The memory of what had taken place in 1802 made them fear that once more Demerara and Berbice might be restored to Dutch rule. Only a very small minority desired this.¹ Not till after the Battle of Waterloo were the colonies definitely ceded to Great Britain. The terms under which the cession was made had, indeed, been secretly discussed between the Prince of Orange and the British Foreign Minister, Lord Castlereagh, early in 1814, and a Convention between Great Britain and the Netherlands had been drawn up and signed (August 13, 1814), but owing to various causes the settlement was delayed. It was not till July 1815 that the news reached the colony that the Three Rivers had passed under British rule. In the *Gazette* of July 22 the announcement was made:—"At last they have condescended to inform us to whom we belong."

By the Convention of August 13, 1814, Great Britain restored to Holland all the captured colonies with the exception of Demerara, Essequibo, and Berbice in Guiana, and the Cape of Good Hope. But these former Dutch possessions were not taken without compensation. Article IX of the Convention provided that £2,000,000 should be paid by Great Britain to the Netherlands for the fortification of the frontiers of the new kingdom, £1,000,000 to pay off a claim of Sweden upon Holland, and £3,000,000 for the establishing of the Union between Holland and Belgium. If to this

¹ Netscher, *Geschiedenis van de Kolonien Essequibo, Demerary en Berbice*, remarks (p. 289): "No one believed any longer in the possibility of an eventual restoration to the Netherlands; and fairness compels me to add ('de billijkheid gebiedt ons hier bij te voegen') that no planter there any longer desired it."

sum were to be added the cost of administration and defence of the colonies from 1796 to 1814, it will be seen that the price paid for them was fully adequate; and, indeed, it was only to be justified by the fact that they contained so many English settlers, who had made large investments in sugar and other plantations.

(b) *British Sovereignty, 1815-1914*

The condition of the colonies when they passed finally into British possession was prosperous. The abolition of the slave trade had not as yet greatly affected the available number of slaves in Guiana; but the fact that no fresh supply could be imported led to a gradual diminution of the number. In 1814 there were in Demerara-Essequibo 77,163, and in Berbice 24,549. But cotton and coffee had seen their best days; prices were beginning to fall; and many cotton and coffee plantations along the coast were abandoned in the succeeding years. The slaves were used in the cultivation of sugar, which was still profitable and required more labour than either cotton or coffee. No change was made in the administration, the Courts of Policy and of Justice continuing as in Dutch times. By the subsidiary Convention of August 1815 the British Government undertook to restore the Berbice Company plantations, which had been confiscated to the British Crown ten years before, and were now claimed by the surviving directors of the company as private property. This was an act of generosity; for the plantations when restored were in a far better state than when taken; and they had no longer, as formerly, to bear the charges of the colonial administration and defence. They did not remain long, however, in the hands of the Dutch proprietors, but were sold to English planters in 1818 for £66,000. The colony of Berbice ceased to have a separate existence in 1831, and its administration as a county of the colony of British Guiana was henceforth conducted from Georgetown.

The anti-slavery campaign in England had, during the period between 1815 and 1823, been making headway; and at the same time Christian missionaries had been very active in Guiana, and their teaching had made a deep impression upon the slave population, amongst whom they worked zealously, but sometimes without much discretion. On the initiative of Fowell Buxton, proposals were carried in the British Parliament (1823) which conferred on the slaves certain civil rights and social privileges; penalties were to be inflicted upon the owners and their foremen for harsh treatment; and the flogging of female slaves was forbidden. This well-intentioned piece of legislation did not, as a matter of fact, effect much real change in the condition of slaves in the Guiana colonies. Since the abolition of the slave trade slaves were far too precious to be ill-treated; and the English planters had already of their own accord granted many privileges to their slaves.

Nevertheless, the language and the doctrines of the anti-slavery agitators, brought to them by the agency of the missionaries, had been stirring a spirit of insubordination amongst an ignorant and excitable race. In this connection the activities of the Rev. John Smith¹ had been particularly notable. The slaves were led to believe in the summer of 1823 that the British Parliament had granted their freedom and that the planters were withholding it. This led to a plot for a general rising, which was betrayed by a mulatto servant; there were some armed collisions, but the promptness with which the authorities acted soon brought the attempted rising to an end.

This abortive rising and the death of Smith in prison added force to the anti-slavery movement in England; and the leaders left no stone unturned in their efforts to improve the conditions of slavery. At last, in 1833, the famous Act² for the abolition of

¹ Of the London Missionary Society.

² Its shorter title was "The Act of Apprenticeship."

slavery throughout the British colonies was passed. On August 1, 1834, all the slaves were declared free. This freedom was, however, not absolute. The slaves, henceforth called "apprenticed labourers," were required to work for their former masters, who in their turn, as before, had to provide for and maintain the "apprentices" and their families. The hours of labour were restricted to seven and a half hours per day, and magistrates sent out from England had the charge of seeing that the new regulations were carried out. This "apprenticeship" period was for plantation slaves to continue till August 1, 1840; for domestic and town slaves till August 1, 1838. The joy of the negroes on hearing of their emancipation was somewhat damped when they learnt that six years must elapse before the Act became fully operative, and there were some disturbances; but by the firmness and tact of the Governor, Sir James Carmichael Smyth, and of the magistrates they were without difficulty suppressed. One of the causes of dissatisfaction, the difference in the date of full emancipation between the two classes of slaves, was by common consent of the Government and the planters removed. All the negroes became free men in 1838. The compensation paid to the owners (£4,297,117) amounted to about one-third of the value of the slaves; and, as many of the estates were heavily mortgaged, and after 1838 the freed negroes would only work when and for as long as they chose, the result was that many planters were ruined.

It has already been stated that in 1814 the cultivation of cotton and coffee had begun to decrease and more capital had been placed in sugar plantations. The export of this last commodity reached its maximum in 1829. In that year, although the number of slaves had fallen from 101,000 (in 1814) to 83,000, the exports amounted to 107,000,000 lb. of sugar, 7,000,000 lb. of coffee, and 2,000,000 lb. of cotton. To what extent the Act of 1834 affected the produce of the Guiana plantations is seen from the returns for 1839 the exports being 60,000,000 lb. of sugar, 1,500,000 lb.

of coffee, and 400,000 lb. of cotton. The sugar export, with small fluctuations, remained stationary until 1849, while that of coffee and cotton practically ceased in 1844.

A report as to the condition of the colony, drawn up by a Commission appointed by the Governor, Sir Henry Barkley, in 1850, reveals a sad state of things. The proprietors of estates had almost all been reduced to insolvency. Most of the sugar plantations had been purchased by English capitalists. The cotton and coffee estates along the sea-front had been simply abandoned, and had passed into the hands of the emancipated slaves, who continued to occupy their old dwellings and to form communities, which exist as the negro villages of to-day. These free negroes, however, having few wants in a tropical climate, did no work that they could avoid. The dykes and embankments which kept out the ocean tides and the inundations from the inland swamps during the rainy season were neglected, as well as the elaborate system of canals and trenches required for the drainage of the waterlogged soil, so that much of this carefully empoldered belt of coastland reverted to its original condition of mud and marsh overgrown with tropical vegetation.

To rescue the colony from complete ruin an adequate supply of labourers was absolutely necessary. Attempts were made to induce free negroes from the West India Islands or from Africa to immigrate, but the results were unsatisfactory. The subsequent introduction of Portuguese, Chinese, and East Indian labourers is described elsewhere (see pp. 47 *et seq.*).

The rush for gold led, from 1884 onwards, to serious disputes between the British and Venezuelan Governments, as some of the most important auriferous districts were on territory to which both countries laid claim. The boundary dispute, which in 1896 might have led to war between the United States and Great Britain, but was happily settled by arbitration, is the subject of the next sub-section.

(3) BOUNDARY DISPUTES AND ARBITRATIONS

(a) *The Venezuelan Arbitration, 1897-99*

When the Dutch colony of Essequibo became British in 1815 no definite boundary line between the territories under Dutch and Spanish jurisdiction had been settled. The settlements of the Dutch were mainly on the sea-coast and on the lower reaches of the rivers; but by means of post-holders and traders the Dutch had for a century and a half maintained friendly relations with the Indian tribes, and exercised administrative control over the whole area watered by the Essequibo and its affluents and along the coast as far as Barima Point, at the mouth of the Orinoco. The only Spanish settlement, that of Santo Thomé,¹ about 140 miles up the Orinoco, had been abandoned in favour of Angostura,² some 100 miles farther up stream, in 1764, only some old forts being maintained. Mission stations of the Catalan Capuchins, established during the eighteenth century in the district lying between the Orinoco and the upper waters of the Cuyuni, but never reaching the Cuyuni Valley, were the only signs of Spanish occupation east of the Orinoco.

Mr. (afterwards Sir) Robert Schomburgk, who in 1836-37 had explored the whole course of the River Essequibo, and discovered its sources in 1840, was appointed by the British Government to survey provisionally the boundaries of British Guiana, using all the historical and local evidence that was available. After four journeys, in which he made an exhaustive and thorough examination of the country, Schomburgk drew the boundary line which bears his name on the principle of not pressing the extreme claims of Great Britain, but of proposing a boundary which would offer a satisfactory basis for negotiation.

The reply of Venezuela in 1844 was a claim for the possession of all the territory lying to the west of the

¹ Known afterwards as Vieja Guyana.

² The present Ciudad Bolivar.

River Essequibo; in other words, to about half the colony of British Guiana. The British Foreign Minister, Lord Aberdeen, while declaring that the Venezuelan claim was absolutely without foundation, offered to make considerable concessions for the sake of a friendly agreement, concessions which were viewed most unfavourably in the colony. The Venezuelan Government, however, made no reply; and in 1850 it was informed by the British Foreign Office that the proposal had lapsed. This step led to an Agreement by which both Powers declared their intention of not occupying or encroaching upon disputed territory until a settlement was reached. Such an agreement was unsatisfactory in itself, and the gold discoveries reopened the controversy in an acute form. In 1883-84 the Venezuelan Government granted to foreign concessionnaires the whole of the territory between the Orinoco and the Essequibo. Warning was at once given by the British authorities that no such encroachment would be allowed, but would be resisted by force; and they declared their intention of maintaining the Schomburgk line as a provisional boundary.

This act of the Venezuelan Government was the more aggressive because Lord Granville had in February 1881 proposed a frontier line which gave considerable concessions to Venezuela. There were many exchanges of Notes; but they brought no change in the attitude of the Venezuelan Government, which continued to assert its claim to all territory as far as the Essequibo. In February 1887 the British Minister at Caracas was given his passports, and diplomatic relations between the two countries ceased. In 1894 the Venezuelans destroyed a station occupied by the colonial police, and in 1896 arrested a Government surveyor engaged in making surveys for a road in *de facto* British territory. Upon the British Government announcing its intention of asserting its territorial rights within the Schomburgk line, if necessary by force, the Venezuelans sheltered themselves behind the Monroe Doctrine, and appealed to the United States.

President Cleveland, without consulting the British Government, in December 1896 issued a decree appointing a Commission to investigate the boundary question, and declaring that the Commission's report on the matter was to be final. This step might easily have had serious consequences; but Lord Salisbury dealt with the question in a spirit of moderation, and his proposal to refer the matter to arbitration was accepted by all parties. The treaty for a settlement of the boundary dispute was signed on February 2, 1897.

Two years were occupied in historical investigations (covering three centuries) in the Dutch and Spanish archives for the establishment of the territorial claims of the two parties, the case of Venezuela being prepared by American counsel and historians. The Court of Arbitration sat at Paris, and consisted of two English judges, two American judges, and a Russian expert in International Law, M. de Martens, who acted as President of the Court. The result was eminently satisfactory to Great Britain. The Court by a unanimous vote (1899) gave to Venezuela only two small portions within the Schomburgk line, amounting in all to an area of 200 square miles out of a claim of more than 30,000 square miles; and it was understood that Great Britain had made these concessions at Barima Point and on the Upper Cuyuni in order to secure the unanimous verdict, a majority of the Court being favourable to a larger British claim.

(b) *The Brazilian Arbitration, 1901-4*

The Paris Court of Arbitration, in settling the boundary between British Guiana and Venezuela, decided also in favour of the Schomburgk line as the boundary on the south between the British colony and Brazil, but without prejudice to Brazilian claims. These claims, however, had long been insistent, and clashed entirely with the arbitral decision. The territory here in dispute was the savannah land beyond the mountain

range of Pacaraima, and lying between the Rupununi and the Rivers Takutu and Cotinga, which flow into the Rio Branco, an affluent of the Amazon. It lies, in fact, in the Amazon basin, and, being in the far interior, had never been settled by white men, but was inhabited by Indian tribes, whose mode of life had not greatly altered since the days of Columbus. It is possible, however, to pass by water from the Essequibo by the Rupununi¹ into the River Mahu, and thence down stream into the Rio Branco; and historical evidence shows that from the middle of the seventeenth century this route had been used regularly by Dutch traders, and that friendly relations had been established with the natives. Before the middle of the eighteenth century a Dutch post had been established at the point of junction of the Rupununi and the Essequibo to exercise a certain political control over the savannah region. It was through an official Dutch expedition in 1739-40 that the geography of this portion of the interior of Guiana was first made known to the world; and no thorough survey of this region was ever made until the exploration by Schomburgk for the British Government (1840-41). The Portuguese, on the other hand, had never established any jurisdiction, even on the Rio Branco, until 1776, when a small post, São Joaquim, was placed at the junction of the Takutu with that river; but this was the extreme limit of their advance northwards, and was regarded by Schomburgk and earlier British travellers as a frontier station. The news of Schomburgk's activities, however, stirred the Brazilian authorities to action.

In 1837 it was determined by the Church Missionary Society to establish a permanent mission at the village of Pirara, on the little river of that name close to the portage into the Rupununi. The missionary arrived at Pirara on May 15, 1838. The Commandant of São Joaquim requested him to withdraw, and on his refusal

¹ In the season of floods directly by canoe; at other seasons by a portage of about one hour, called the Pirara portage.

occupied Pirara with a detachment of Brazilian troops, stating that the Brazilian Government claimed the whole of the territory to the Rupununi and the Upper Essequibo as far as the 4th degree of north latitude. The British Government strongly protested, and, when protest was unavailing, despatched a body of British troops from Georgetown to assert and maintain British rights. On February 14, 1842, they entered Pirara, which had on the news of their approach been abandoned by the Brazilians, and hoisted the British flag. They remained until September 1, when they were withdrawn.

It is unnecessary to follow the diplomatic controversy which followed, for it did not lead to any understanding or agreement, the divergencies of view between the two Governments being irreconcilable. In 1891 the British Government proposed as a concession to accept the River Mahu or Ireng from its source to its junction with the Takutu as the British western boundary instead of the Cotinga, which was the Schomburgk line. The Brazilians replied by claiming the line of the watershed. This Lord Salisbury declined, but repeated his offer of the Mahu line as a compromise. This was definitely refused by Brazil (December 1897). The decision, therefore, of the Paris Arbitral Court in favour of the Schomburgk line was not likely to find acceptance at Rio Janeiro. Finally it was agreed by the British and Brazilian Governments to refer the matter to the arbitration of the King of Italy, and the treaty was signed on November 6, 1901. The question in dispute required an even more lengthy and laborious research into historical records than had been the case in the Venezuelan arbitration; and the decision, which was given by the King of Italy (June 15, 1904), accepted as a reasonable compromise the proposal made by Lord Salisbury in 1891, and again in 1897, that the Rivers Takutu and Mahu from their sources to their point of junction should form the boundary between British Guiana and the United States of Brazil.

Thus the question of the boundaries of the colony was finally laid to rest. It is interesting to note that the piece of territory thus definitely assigned to Great Britain in 1904 included the site of the fabled sea of Parima and the Golden City of Manoa, of which Raleigh wrote, and the lure of which led to the unfortunate expedition up the Orinoco, whose failure was the cause of his imprisonment and death.

III. SOCIAL AND POLITICAL CONDITIONS

(1) RELIGIOUS

THE Church of England and the Church of Scotland until 1899 alone received official recognition; Government grants were assigned for the payment of the clergy and for the maintenance of the parsonages and manses. The system of parishes was arranged in 1825 on the principle that alternate parishes should be assigned to the two Churches.

In 1899 the establishment was abolished, and all denominations placed upon an equal footing.

(2) POLITICAL

When the Guiana colonies were taken over from the Dutch it was stipulated that the system of government and the Dutch laws and usages should not be changed. Accordingly for many years the old Roman-Dutch law was the code used in the Courts of Justice. But in process of time modifications and changes have taken place; and the criminal law at the present time, though with some remnants of the old system, is modelled on that of England. In certain civil causes the Roman-Dutch law is still in force.

The Dutch administration consisted of a Governor with large executive powers and a legislative body called the Court of Policy. The Court of Policy had eight members—four *ex officio* and four others chosen by the College of Kiezers (electors), who were themselves elected by the inhabitants subject to a certain property qualification. For financial matters the Court of Policy had an additional six members (the financial college), elected on the same property qualification as the College of Kiezers. This enlarged body was

known as the Combined Court. This Court had no power to alter the amount of the Budget, but only the character of the taxes which had to be imposed. Its limited powers in matters of finance, as might be expected, did not give satisfaction to the inhabitants; and at times considerable friction occurred between the elected members and the official element appointed by the Crown. This led in 1891 to certain changes in the Constitution. The Governor is now assisted by an Executive Council, all the members of which, official and unofficial, are nominated by the Crown. The College of Kiezers was abolished, and the Court of Policy consists of sixteen members, i.e. the Governor, who is the President, seven nominated officials, and eight other members directly elected by the inhabitants. The Combined Court has the additional six directly elected members, and its powers have been greatly enlarged in regard to all expenditure, except the Civil List.

(3) EDUCATIONAL

Compulsory education has been established in the settled districts on a denominational basis. Each Church has its own schools, which are examined by Government inspectors, and receive subsidies for every child when the report of efficiency is satisfactory. There is an excellent secondary school, called Queen's College in Georgetown.

GENERAL OBSERVATIONS

Probably there is no other territory in the world where the settled inhabitants contain a greater variety of races divided from one another by history, tradition, and colour, all living side by side on terms of friendly co-operation, and without any of the bitterness or strife arising from class or caste distinctions.

British Guiana can never be a white man's colony. The large negro population is, for various reasons, not increasing; and the negroes generally are inclined to

take life easily and not to do more work than is absolutely necessary. The British Indian immigrants, however, have in recent years in ever-growing numbers made British Guiana their home. They are thoroughly acclimatized, work hard, save money, and will undoubtedly in the future be the mainstay of the colony's prosperity.

The resources of British Guiana remain almost untouched; only the coastal belt has been exploited. The magnificent forests of the interior are almost unexplored, save by the balata-bleeders. And it may be pointed out that the balata industry is yet in its infancy, and will be of ever-increasing value. The vast savannahs in the Amazon basin between the Rivers Mahu and Takutu, definitely assigned to Great Britain by the arbitral decision of the King of Italy in 1904, are specially fitted for cattle-breeding and for cattle ranches.

The difficulty hitherto has been the lack of communications. The rivers, owing to the character of the country, which rises from the sea-coast to the mountain barrier on the south, are full of rapids impeding navigation. What is wanted is a railway passing through the heart of the colony, and connecting Demerara with the savannahs around Pirara. This line has long been projected. The time is now ripe for it to be carried out as a national undertaking.¹

The arbitral decisions of 1899 and 1904 have definitely settled the boundaries of the colony and removed all international difficulties in regard to the future of British Guiana.

¹ For details of projected railways see below, p. 42.

IV. ECONOMIC CONDITIONS

(A) MEANS OF COMMUNICATION

(1) INTERNAL

(a) *Roads*

THE public roads of British Guiana are classed under two heads as coast roads and bush roads. Roads, in the ordinary sense of the term, are confined almost entirely to the first of the three zones—coast lands, forest lands, and savannahs—into which the colony is divided, for the coast lands alone possess any considerable permanent population, and in the other regions, where road- and track-making is a matter of difficulty and expense, a transient population makes shift to get on with such communications as are afforded by the numerous rivers which water the country. The chief road runs parallel with the coast from Pomeroon in the west to the Corentyne River in the east; its total length is 322 miles, the whole being connected by bridges and steam ferries; it has branches up the principal rivers and creeks, and traverses all the important sugar estates and centres of population in the occupied part of the coast. Inland there is a short road skirting the Camaria Rapids on the Cuyuni River; and there are two cart-roads, the one from above Tumatumari on the Potaro River to Minnehaha, with a bridle-path extension to the Konawaruk, and the other from Arakaka, on the Barima, to Towakaima, on the Barama. There are also some 65 miles of bridle-paths, footpaths, and tracks at other places in the interior, about 25 miles of them in the neighbourhood of the Konawaruk River. All these roads and tracks are maintained by the Government. A road made and maintained by the enterprise of an

American mining company connects the Puruni River with the Cuyuni at Kartabu Point. To connect Bartika Grove with the Caburi River, a tributary of the Mazaroni, a road some 35 miles in length has been traced, but it is not used, as the river route is cheaper.

(b) *Rivers and Canals*

The rivers of British Guiana, by reason of the shoals and bars which obstruct their mouths and of the rapids and falls which impede their upper courses, are somewhat defective as means of communication. They are, however, very numerous; the larger ones carry good-sized vessels for appreciable distances in their lower reaches; and their upper waters afford the only means by which, though not without difficulty, danger, and expense, the gold-digger and the balata-collector can reach the goldfield and the forest, and the timber-cutter and charcoal-burner can make their products available for the market. It would be approximately true to say that each of the chief river systems possesses a dominant characteristic, for the Berbice is the most readily navigable, the Demerara is commercially the most important, the Essequibo is the largest, and the Waini is in some respects the most useful, on account of the system of waterways to which it is the key.

The entrance of the *Berbice* is obstructed by a bar of sand, navigable at high water for vessels of not above 16 ft. draught, which can reach Fort Nassau, 45 miles from the mouth; vessels of 12 ft. draught can ascend for over 100 miles; and, at all events during the rainy season, small craft can go up to the first rapids at Marlissa, some 165 miles from the sea. New Amsterdam stands at the confluence of the Berbice and its tributary, the Canje, which is navigable for small craft for about 50 miles, and is connected with the Corentyne by a creek.

The *Demerara River* is commercially important by reason of the comparative safety of its navigation,

and of the presence on its banks of the capital and chief port of the colony. The approach to it is obstructed by a mud flat, over which vessels of 17-19 ft. draught used to be able to enter; but the channel tends to diminish in depth through alluvial deposit, and in 1916 it was reported that there was $2\frac{1}{2}$ ft. less water on the bar. A harbour improvement scheme, of which the deepening of the channel formed part, was in contemplation at the outbreak of war. At high water the river is navigable for vessels of 12 ft. draught for 65 miles, while smaller craft can reach the Malali Rapids, nearly 100 miles above Georgetown. Above these rapids there are reaches, between the cataracts, which are navigable for boats. On the lower river for a distance of nearly 20 miles from Georgetown the flat lands on both banks are extensively cultivated, and large supplies of timber are obtained from the forest country on the upper river.

The *Essequibo*, the largest river in the colony, can be entered by vessels of 15-18 ft. draught, and is navigable by vessels of 16 ft. draught for some 50 miles, and by large trading canoes for 90 miles, though above the first rapids its course is broken and dangerous. Many of its tributaries, such as the Cuyuni, Mazaruni, Potaro, and Rupununi, are themselves considerable streams; but they are broken by rapids and cataracts, which form serious impediments to navigation.

The *Waini*, *Barama*, and *Barima*, with their many tributary streams, are navigable for small steamers or launches for considerable distances, and give access to the agricultural districts near the coast, and the important auriferous and timber-clad regions farther inland.

“ An interesting and useful feature of all the rivers in and around this district are the many waterways by which, at varying distances inwards, they are connected with one another, and by which it is both possible and practicable to journey from one to another entirely inland. Indeed, the facilities for transportation, more especially in the parts nearest the sea,

. . . are so great as to render the making of roads almost unnecessary, and it is for this reason that, although comparatively recently opened up, this part of the colony has, perhaps, been the most thoroughly explored."¹

Of the smaller rivers of the colony the most important are the *Abary*, *Mahaicony*, *Mahaica*, and *Pomeroon*. Being navigable for small craft for considerable portions of their courses, they serve as means of communication for the Portuguese, East Indian, and other settlers who farm small holdings on their banks. The *Corentyne*, the boundary river of the colony, may be regarded as being Dutch; the produce of estates on the British bank is usually sent away in local craft, known as droghers, for shipment from a British port.

Before June 1914 certain river steamer services were performed by contract, but this contract has now been terminated, and a Government steamer service is run as follows:—Parika to Suddie, $23\frac{3}{4}$ nautical miles, and Parika to Bartika Grove, 36 nautical miles, daily except on Sundays; Parika to Leguan, $3\frac{1}{2}$ miles, the Demerara River ferry (Georgetown to Vreed-en-Hoop), $\frac{1}{2}$ mile, and the Berbice River ferry (Rosignol to New Amsterdam), $1\frac{3}{4}$ miles, daily throughout the week. There is also, or was before the outbreak of war, steamer communication between Georgetown, the North-West District, New Amsterdam, Springlands (at the mouth of the Corentyne), and Wismar (up the Demerara). There are launch services on the upper waters of the Berbice and Essequibo and on the Cuyuni, Potaro, etc.; and Arakaka on the Barima, the centre of the gold mining area in the North-West District, can be reached by light-draught launches during a portion of the year. As a general rule, however, travelling above the termini of the steamer routes is done in canoes or keelless *bateaux*, propelled by paddlers. Owing to the many dangers which beset this inland travelling, stringent regulations have been framed to govern the

¹ J. B. Harrison, *Geology of the Goldfields of British Guiana*, p. 14

loading and equipment of the boats and the qualifications of the boatmen, and the shooting of certain falls is prohibited. The descent of the streams is quick, if not always safe; but mounting them against strong currents, through numerous rapids, and over long portages is slow and tedious, and adds appreciably to the difficulty and expense of all industrial enterprise conducted in the interior of the country.

Canals.—There are three canals on the Demerara River—two on the left bank, within 7 miles of Georgetown, each 7 miles long, and one on the right bank, within 5 miles of the town and 4 miles long; each of them is 60 ft. wide, and runs at right angles to the river. They are used for navigation, as well as for drainage, by the inland estates, on the owners of which the cost of maintenance falls, the canals on the left bank being included in a Polder scheme, to which the estates contribute in rates. Similar canals are found, one discharging into the Mahaica Creek at its mouth, another at the back of the Mahaica Estates, and a third on the east coast of Berbice County. Canals of considerable length carry water to Georgetown and New Amsterdam from the savannahs and creeks to the south. The drainage canals on the estates are also used for water transport (see p. 54).

(c) *Railways*

There are four railways in the colony with a total length of just under a hundred miles.

The *Demerara Railway*, from Georgetown to Mahaica, has $21\frac{1}{2}$ miles of line open for traffic, with a 4 ft. $8\frac{1}{2}$ in. gauge. Its total receipts in 1916 were £38,720, and its total expenditure, excluding interest charges of £1,968, was £19,730. Its passenger mileage and tonnage in the same year were 55,965 miles and 66,331 tons, its passenger and goods receipts being respectively £17,529 and £17,295.

The *Berbice Railway Extension*, from Mahaica to Rosignol, on the left bank of the Berbice, opposite

New Amsterdam, has a length of 39 miles open for traffic, and has also a 4 ft. 8½ in. gauge. Its total receipts in 1916 were £10,753, and its expenditure was £14,921. Its passenger mileage in that year was 37,578, with receipts £6,858, and its tonnage 11,544 tons, with receipts £2,436.

The *West Coast Railway*, from Vreed-en-Hoop, opposite Georgetown, with which it is connected by a steam ferry, to Parika, has a length open for traffic of 18½ miles, with a 3 ft. 6 in. gauge. Its total receipts in 1916 were £11,195, and its total expenditure was £9,707. The sum of £9,195 was taken in passenger receipts with a mileage of 40,867, and £1,331 in goods receipts with a tonnage of 4,751.

All these lines are operated by the Demerara Railway Company, which was established under Ordinances of 1846 and 1847. In respect of the Berbice railway extension, the company has raised £312,500 preferred capital, entitled to interest at 4 per cent., and the Government pays by way of subsidy such a sum as, together with the net earnings, will make up the amount of this interest.

The *Essequibo Railway*, operated by Sproston, Ltd., runs from Wismar, which is on the left bank of the Demerara River, some 70 miles from its mouth, to Rockstone, which is on the right bank of the Essequibo River, and above the first series of cataracts on that river. It has 18½ miles open for traffic, with a metre gauge. No particulars with regard to its receipts, etc., are available. This line has been open since 1897, and in conjunction with the steamers and launches plying on the Demerara and Essequibo rivers it affords access to the goldfields of the interior.

Tramways.—In and around Georgetown the Demerara Electric Company operates 13½ miles of electric tram-lines, worked on the trolley system, and having a 4 ft. 8½ in. gauge. In 1916 the trams carried 1,279,618 passengers, with a passenger mileage of 483,965, and the passenger receipts amounted to £10,517.

Proposed Railways.—Various proposals for additional lines of railway have been mooted from time to time. Most of these have had for their object the development of the auriferous and forest regions of the interior, access to which is now barred by dangerous rapids. It was at one time suggested that the waste of life and of goods attending river voyages could be avoided by a light railway from Bartika Grove up the left bank of the Essequibo, until the rapids are passed, with branches to the Mazaruni and Puruni goldfields. In recent years, however, a more ambitious scheme has held the field. In 1913 the Governor, being favourably impressed by the possibilities of the southern savannah country, proposed that a trunk line of railway should be constructed from Georgetown to a point near the junction of the Ireng and Takutu rivers on the Brazilian frontier, the route being selected with a view to subsequent linking up with Manaos, and the consequent establishment of a transcontinental line in the colony. Had this project been sanctioned, a large sum would have been raised by loan for the construction of the railway, and for a general colonisation and development scheme in connection with it. The matter was, however, held up by the refusal of the Imperial Government to apply to Parliament for a loan without the production of more satisfactory proof that the railway would become self-supporting; and while the question was still under discussion the project was postponed by the outbreak of war. In July 1918, however, the Under-Secretary for the Colonies announced in Parliament that measures of development advocated by Sir W. Egerton were receiving attention; that such of them as could be carried out during the war were being proceeded with; and that, in the matter of the scheme for a railway to the interior, practical steps had already been taken by clearing a cattle track along a line which coincided with one of the proposed railway tracks. Proposals, long advocated, for a line from New Amsterdam to the mouth of the Corentyne River at Springlands have now

been entirely superseded in favour of the railway into the interior, which is thought to be of greater importance and of higher economic value.

(d) *Posts, Telegraphs, etc.*

There are 71 post-offices in the colony, of which 44 are telegraph offices, 50 are savings-banks, and 5 are travelling offices. Of these post-offices 5 are in Georgetown, 27 others in Demerara County, 14 in Berbice County, and 20 in Essequibo County; whilst of the 5 travelling offices three are in the Demerara, Berbice, and Mazaruni river steamers, one is on the upper Demerara river launch, and one is in the Pomeroun mail-boat. The postal service is well organized, letters from Georgetown reaching Pomeroun in 24 hours, and the North-West District in 36 hours.

The length of telegraphic lines throughout the colony is approximately 550 miles, and there are 12 cables, with an aggregate length of $22\frac{1}{2}$ miles.

A public telephone exchange is attached to the post-office at Georgetown; it has 600 subscribers, at rates varying from £2 10s. to £7 10s. per annum. At New Amsterdam there is also a post-office exchange, with 92 subscribers. The post-office also maintains some 200 other telephones for the use of the Government, the police, and private individuals. The aggregate length of aerial telephone wires is $1,855\frac{1}{2}$ miles, and in Georgetown there are $5\frac{1}{2}$ miles of telephone cable.

(2) EXTERNAL

General.—The only ports on the Guianese coast are formed by the mouths of the rivers, and for the most part local knowledge and practical experience are required for crossing the bars and shoals by which their entrances are generally obstructed; but, as no hurricanes ever occur, it is safe to anchor and await a pilot, or to make an examination by boat. Depths off the coast vary frequently, owing to deposits of mud made by the rivers. Trees and grasses torn from the river

banks during the rainy season and thrown out on to shallow mud flats take root with astonishing celerity, and, by causing the mud to accumulate round them, change the features, and sometimes even the direction, of the coast. Off the Cayenne shore a century ago trees were found to be growing in a place where six years before there had been a depth of 15 or 16 ft. of water. There is nothing special to note with regard to tides, unless it be that they are somewhat irregular, or with regard to currents, which run normally with a velocity of 2 or 3 knots. Heavy rollers are met with on the coast from December to February.

(a) *Ports*

British Guiana has five ports of entry: Georgetown on the Demerara River, New Amsterdam on the Berbice River, Springlands on the Corentyne River, and Morawhanna and Yarikita in the North-West District. Of these Georgetown alone possesses any importance from the point of view of ocean shipping. If New Amsterdam does not now merit the description which Trollope gave of it 60 years ago as a place so stagnant and inanimate that a collection of three persons in the street might be considered to constitute a crowd, yet it attracts an inconsiderable proportion of the shipping which visits the colony; and the other ports are entered only by the small coasting craft which ply between the colony and Venezuela, Surinam, and Cayenne.

Georgetown, the capital of the colony, is situated on the right bank of the Demerara River, just within the mouth. There is ample anchorage for vessels that can enter the river (see p. 38). With its broad streets, shaded by palms and fringed by canals, its electric light, electric trams, and business activity, Georgetown may be considered an attractive port of call. If meat supplies are poor, bread and vegetables are good, cheap, and plentiful, and vessels can either take in water delivered alongside at 10s. a ton or proceed up the river and obtain their supplies from a good

spring at Sandhills. About 5,000 tons of coal are kept in stock, and may be brought off in lighters, or a vessel can coal at the coal wharves, of which there are four, with depths alongside of from 9 to 22 ft. The town has commercial wharves along a frontage of some 2 miles, with low-water depths of $3\frac{1}{2}$ -4 fathoms over mud. There is a dry dock, the Sproston, 203 ft. in length on the blocks, with a breadth of 44 ft., and a depth of $9\frac{1}{2}$ ft. on the sill at high-water springs. There is also a patent slipway 81 ft. in length, which can be used by craft up to $5\frac{1}{2}$ ft. draught. Two first-class machine-shops exist here, and repairs to both steam and sailing vessels can be effected, though there are no facilities for lifting heavy weights.

In 1915 a dry dock was built at the Government penal station on the Mazaruni River; it has an overall length of 160 ft., and an entrance breadth of 35 ft., with $7\frac{1}{2}$ ft. on the sill at low-water springs. The workshop at this dock has up-to-date machinery, foundry plant, etc.

Larger dry-dock accommodation may be had at Trinidad, Barbados, Martinique, and St. Thomas.

Shipping Statistics.—On the annual average of the period 1905 to 1914, the ports of the colony were entered by 1,954 vessels, of 452,173 tons. Of these, 810, with a tonnage of 304,432 tons, or 67 per cent. of the total tonnage, were British; 247, of 77,153 tons, or 17 per cent., were Dutch; 33, of 29,508 tons, or 6 per cent., were Norwegian; 13, of 17,500 tons, or 4 per cent., were Danish; and 30, of 13,994 tons, or 3 per cent., were French. On a comparison of the annual averages for 1905-9 and 1910-14 the total shipping showed an increase from 1,458 vessels, of 418,228 tons, on the average of the first period to 2,452 vessels, of 486,125 tons, on the average of the second; and on a comparison of the same averages, British, Dutch, Danish, and French shipping showed increases, while Norwegian and American figures declined.¹

(b) Shipping Lines

The shipping lines running to Georgetown, with the number and tonnage of their vessels entered annually on the average of the years 1906 to 1915, are as follows¹:—

Company.	No.	Tons.	Per-centage.
Royal Dutch West India Mail ..	46	72,446	16·25
Quebec Steamship Co. ..	27	54,244	12·17
Canadian Mail (Pickford & Black) ..	29	52,634	11·81
Royal Mail Steam Packet Co. ..	35	49,673	11·14
London Direct Line ..	22	46,372	10·40
Glasgow Direct Line ..	18	34,767	7·78
East Asiatic Co., Ltd. ..	11	17,054	3·83
Compagnie Générale Transatlantique ..	26	15,137	3·40
Liverpool Line ..	13	14,227	3·20
Norse Line ..	5	11,334	2·54
Dutch (Surinam) Government Service ..	34	7,382	1·66
Sprotons, Ltd., Surinam Service ..	40	5,739	1·30
All other steamers ..	55	64,697	14·52

All the lines mentioned ran their services regularly throughout the period with the exception of the East Asiatic Co., which made no call at Georgetown in 1915. In addition to the lines specified, the Trinidad Shipping and Trading Co. has run a service since 1911, with an annual average of 14 vessels, of 35,004 tons; and in 1915 thirteen vessels of the Seeberg Line, of 14,047 tons, called at Georgetown. In the table given above these are all classified as "other steamers," and that term also includes vessels of the Elder, Dempster Steamship Co., the Cayenne-Bolivar Line, and the Armstrong Line, which suspended their Georgetown services in 1911-12, 1912-13, and 1913-14 respectively.

In 1915 the colony found itself for the first time for many years without a subsidized service for the carriage of transatlantic mails, the Royal Mail Steam Packet Co. having notified their inability to continue the contract owing to restrictions arising from the war.

¹ *Administration Reports.*

The inter-colonial service was at the same time discontinued by arrangement, and mails were carried as opportunity offered by the various lines visiting the colony.

(c) *Cables and Wireless*

The colony is served by the West India and Panama Telegraph Company under Government subsidy. Messages sent by the Company to Great Britain pass through the Danish island of St. Thomas, Porto Rico, and Cuba, and then over the territory of the United States from Key West to New York. It is, however, possible to send telegrams to Great Britain "*via Bermuda*"; these must be transferred in Jamaica to the Direct West India Cable Company, when they are transmitted over the lines of that company and of the Halifax and Bermuda Cable Company. This supplies an all-British route from British Guiana to Great Britain, except for the breaks at Santa Cruz and Porto Rico.

There is a wireless station at Georgetown. Wireless telegraphy in the colony is governed by the Wireless Telegraph Ordinance No. 7 of 1910-11, which is based on the English Wireless Telegraph Act, 1904.

(B) INDUSTRY

(1) LABOUR

In British Guiana, as in most tropical countries where the white man is incapable of prolonged manual labour, the maintenance of an adequate labour supply is a matter of perennial difficulty. In the old days most of the negroes were employed as agricultural labourers; but plantation work was distasteful to them, and as soon as emancipation was carried into effect great difficulty was experienced in manning the estates. Many of the old settlers were ruined, and the sale of their plantations to the negroes, who laid them out in villages, tended to alienate the black population still more from labour on the land. The planters who remained were obliged to do what they could to supply

the deficiency from other sources; and in consequence of this process, which still continues, the negro has fallen yet further into the background as an agricultural labourer. Healthy and powerful, the black man, when he can be induced to work, is useful for the harder work of the plantation, the timber concession, and the placer, but he is lethargic and indolent, and his activity is liable to be spasmodic. Efforts have been made to fill his place with Portuguese, with Chinese, and with East Indian coolies. The Portuguese were brought in from Madeira from 1835 to 1840, but were physically unequal to the demands of tropical agriculture, and the survivors quickly deserted the estates to set up as pedlars, small traders, and shopkeepers. In those pursuits they have succeeded admirably, being by nature industrious and thrifty; and to-day they own most of the provision shops and nearly all the rum shops.

Like the Portuguese, with whom they alone are able to compete as small shopkeepers, the Chinese, 12,000 of whom were introduced between 1853 and 1867, have done well in many ways; but opinions differ as to their capacity for plantation labour, and they are disliked by the rest of the population.

It has thus been left for the Hindu coolie, introduced from 1838 onwards under a system of indentured immigration, to become the mainstay of the labour market. Without the physical strength of the negro and his capacity for heavy work, the coolie is more willing in temper, more amenable to discipline, more regular in his habits, and generally more adaptable to the requirements of the estates, and as a source of continuous agricultural labour he has been the salvation of the colony. He, in his turn, has benefited by the arrangement; his villages are prosperous, his savings-bank deposits are increasing, he is settling down in independence to the cultivation of the soil, and it seems that he may end by creating a self-supporting agricultural peasantry, of which the country is badly in need. Regulations for immigration were

approved by the Government of India in 1844. Between 1844-48 about 12,000 Indians were brought. In the year 1848 a system of indenture under the control and supervision of the Home and Indian Governments was introduced, which came into force in 1851. From this date onwards the average number of arrivals was 3,500, of departures 1,500. Since the beginning of the present century, owing to the fact of so many East Indians having settled permanently in the colony, there has been a smaller demand for fresh supplies of coolies; and the average number of indentured arrivals between 1902 and 1916 was 1,856, while annually 1,022 persons have availed themselves of their privilege of being conveyed back to India. In December 1915 the remaining East Indian population consisted approximately of 71,454 off the estates, and 65,074 on the estates; of the latter, 5,179 males and 2,018 females were indentured, and 22,848 males and 15,563 females were un-indentured, the balance consisting of children. The indentures were at first for three years, with repatriation in five years. In 1854 the term of residence was extended to ten years, the indentures being still for three years; but reindenture for two years was required, with choice of employer. The term of indenture was in 1864 extended to five years, with reindenture for periods of five years. Various changes were introduced in 1873 and 1894; and since 1875 re-indenture has practically ceased. Elaborate regulations for the good housing, regular work, and wages of all indentured coolies were drawn up. The working-day was limited to seven hours; no work was to be done on Sunday; and fortnightly holidays of one day and one night were granted. The coolies, however, were bound to reside on the plantations, and never absent themselves without leave; and their holidays depended on their steady performance of their allotted task. Medical attendance was provided on the estates by the Government Medical Service; and the estates were bound to maintain their own hospitals for their labourers, and to pay the fees for those taken to Govern-

ment hospitals. Surgeon-Major D. W. D. Comins, sent by the Indian Government to British Guiana to report on the working of the system in 1893, reported:—

“ British Guiana, in consequence of the long-continued efforts of legislators and planters, has brought its system for the beneficial control of indentured labour more perfect than any other colony.”

A very favourable report was likewise made in 1910 by the Committee of Enquiry presided over by Lord Sanderson. The term of indenture for a man was five years; for a woman, three years. A Government official, the immigration agent, is charged with the duty of seeing that all regulations are properly carried out.

In accordance with a scheme recently drawn up by an Inter-Departmental Conference in London, indentures in British Guiana have now been abolished. Negotiations are still in progress with a view to the establishment of the proposed system of assisted emigration. Opinions may differ as to the wisdom of encouraging emigration from India, and as to the benefit thereby conferred upon the emigrant, but there can be no question about the matter from the Guianese point of view. It would be a grave blow to the colony, and the climax of a long series of ill-merited misfortunes, if, just as activity in the sugar industry is reviving and enterprise generally in the country is being quickened, the new scheme proved less successful than the old. East Indian immigration into British Guiana has been hitherto very successful than the old. East Indian immigration Mr. Rodway, writing in 1912, declares: “ The East Indian will certainly be the man of the future in Guiana if the immigration system is continued.”¹ Among other things, he has come to the front as a rice-grower. Formerly very large quantities of rice were imported; now the exports of rice reach a considerable figure.

¹ *Guiana: British, Dutch, and French*, by James Rodway, p. 192.

(2) AGRICULTURE

General.—British Guiana is a country in which agriculture enjoys many advantages. The cultivated portions of the colony run along the sea-coast for a distance of 200 miles or more, as well as up some of the chief rivers for a distance of 10 or 12 miles. In addition to the fringe of coast, several islands are partly cultivated, while scattered villages or single homesteads are occasionally found on the river banks for a considerable distance inland. The fertility of the coast lands, with their fluvio-marine deposit, is almost unparalleled; they will produce the same crops year after year with little or no assistance in the way of fertilisers, and with little or no diminution in the yield; and vegetation grows with a luxuriance which is remarkable even in the tropics. The climate is both hot and wet, without excessive fluctuation or disastrous caprice—droughts are rare, prolonged rains are unusual, hurricanes are unknown; and, as a rule, the planter need have few apprehensions save on the score of his labour supply. Sugar is still, as it has been for a century past, the chief product of the country; but the cultivation of rice has made rapid strides in recent years; coconuts, coffee, and limes are also progressive branches of the agricultural industry; and cacao and rubber are grown. Of the entire exports of the colony 72 per cent. consists of the produce of the plantations.

(a) Products of Commercial Value

(i) *Sugar.*—Though sugar has preserved its pre-eminence more or less intact, it has encountered varying fortunes and has undergone alarming vicissitudes. Nearly ruined by the emancipation of the slaves, which deprived it of its labour supply, the industry then had to face a progressive decline in the price of its product; and by the competition of the bounty-fed beet sugars of the Continent this decline was accelerated to a point at which it threatened total

extinction. That the industry has weathered the storm is due to the assistance given by the Government and to the resource of the planter. Indentured immigration, the abolition of bounties as a result of the Brussels Convention, Canadian tariff preference, the measures taken to evolve disease-resisting varieties of cane, and the adoption on the plantations of an intelligent policy of retrenchment and reform, have effected radical changes in the condition of the industry, which has emerged from its period of ordeal revitalised and hopeful. In 1916 there were 39 sugar plantations, which occupied 42 per cent. of the cultivated land, and during the years 1902-16 sugar alone furnished nearly 60 per cent., and sugar and its by-products (rum, molasses, and *molascuit*, or cattle-food) together furnished nearly 70 per cent. of the exports of the colony. Over 100,000 tons are produced annually. In the year 1916, which the high price of the commodity rendered the most profitable experienced by the industry for some time past, the export of sugar was valued at over £2,000,000, and that of sugar and its by-products together amounted to about £2,750,000.

The Plantations.—These always face the seashore or a river bank, where the front dam is situated, behind which comes the public road. The plantation is oblong shaped, the original grants having been of areas from a quarter to half a mile wide by nearly two miles deep, with a right to further concessions behind them; but some of the estates have absorbed several of the original grants, and one plantation in Demerara County is half a mile wide by five and a half miles deep. As the coastal lands are below the level of the sea at high water, a belt of *courida* or mangrove, which forms a natural dyke, is allowed to grow along the sea front, and inside it a dam of earth is thrown up to form a further barrier against the inroads of the sea and to carry off, in the excavation alongside of it, any water that may come over at high tide. Behind the front dam come grass lands, which are used for pasturing the horses and cattle belonging

to the estate, and are skirted or intersected by the public road and the railway. With its two canals on either side the road forms a second line of defence. Near the railway the draining engine of the estate will be found in proximity to the kokers, or sluices, of the canefields. About a mile further back come the plantation buildings—the sugar factory, manager's house, hospital, school-house, shops, and labourers' dwellings, the whole forming on a big plantation a self-contained village of some size. Around the village are the canefields, which extend from the front sluices to the point where the back dam protects the estate from the attacks of floods in rear.

Drainage and Irrigation.—In a region where the land is low and flat, the soil retentive, and the rainfall usually heavy and occasionally excessive, while droughts are rare, drainage is more important than irrigation. Droughts, it is true, are not unknown—the plantations suffered severely from the last visitation in the years 1911 and 1912—and provision has to be made for them in the conservation of water supplies and the construction of facilities for its use. The existing conservancy system not being particularly efficient, the Government in 1915 began surveying for an extensive irrigation scheme, on the representations of several firms owning plantations. These firms thought it

“evident . . . that with a proper system of irrigation . . . the crops of the sugar estates, villages, and farms . . . would be largely insured against drought, and might in consequence be expected to be more bountiful. . . . Sufficient water for the purpose, the proprietors thought, could be obtained by a system of barrages, pumps, and canals.”¹

Ordinarily, however, it is the removal rather than the introduction of water that demands the planter's attention. The fact that an estate of a total area of under 2,000 acres may have no less than 200 acres, or a tenth of its surface, devoted to parapets, dams, and trenches shows how vital a part is played by the drain-

¹ *Administration Report*, 1915.

age question in the economy of a plantation. Apart altogether from the risk of destructive floods, sugar cane would suffer rapid deterioration, or even death, if left to stand in swampy ground. Each bed of cane, therefore, has its ditch; each field has its trench; and the trenches are connected with canals, by which the surplus water is run off through sluices at low water, or from which in heavy weather it is pumped out by the draining engine.

The presence of an elaborate system of canals on the one hand and the rarity of roads on the other have naturally led to the employment of water-carriage on the estates, and the principal drainage trenches serve also as navigable canals. Along them the canes are drawn in punts from the fields to the factory, while the finished product is carried by the same means either to the railway or to the shipping trench, whence it is despatched to port.

Methods of Cultivation.—The cultivation of sugar is carried on almost entirely by manual labour, for the intersection of the fields by innumerable drains leaves no surface where the plough can be employed, so that digging must be done with the spade; nor has any mechanical means more efficient than hand-cutting been discovered for harvesting the ripe cane. When the digging is completed, the canes are planted about a foot apart, and in rows three or four feet distant from one another. As soon as the plants reach a height of some two feet, soil is thrown upon the roots with a shovel or fork, the process being known as ploughing. In about 15 months the canes are ready for cutting, when the stumps, which are called ratoons, are left in the earth. These ratoons spring up again, and in the course of another year they, too, are ready for the harvest. A field of ripe cane forms an impenetrable jungle of growth from 8 to 10 or 12 ft. high, and, as the richest juice is found in the lowest joints, the canes have to be cut as close as possible to the ground. They are then ready to be conveyed in mule-drawn punts to the factory.

Methods of Manufacture.—To meet the troubles of the past the Guianese planter has aimed incessantly at reducing the cost of production by a drastic policy of centralisation, simplification, and progress. Forty estates now produce as much sugar as came from thrice that number 50 years ago, and rapid as has been the fall in the price of the commodity the cost of manufacture has fallen almost as swiftly. Most of the plantations are provided with the latest improvements in sugar-making machinery, and are in constant touch with the chemist and the engineer. Under the old system, by which *muscovado* or common process sugar was made, weeks or even months elapsed between the first boiling of the canes and the final despatch of the finished article; but now, with the "vacuum pan" and the "centrifugal," canes can be ground, the juice expressed, boiled, and crystallised, and the finished product shipped within a few hours. When the canes reach the factory they are placed in a crushing machine, which consists of two powerful rollers, and in this from 65 to 75 lbs. of juice are expressed from every 100 lbs. of cane. The juice then passes through various processes for the elimination of impurities, after which it is ready for the vacuum pan, a large cylindrical copper pan from 9 to 12 ft. in diameter, which is heated to about 150° F. The juice is then whirled about and crystals begin to form, the resultant liquid being known as molasses or treacle.

As Demerara crystals enjoy no mean reputation in the sugar markets of the world, it is worth mentioning that the Bourbon cane, from which they were derived, has developed so marked a tendency to disease that it is rapidly passing out of cultivation. New varieties have been discovered or evolved, but they do not approach the Bourbon in the production of a sugar with the colour, flavour, and aroma of true Demerara crystals.

Sugar By-Products.—The process of manufacturing sugar gives rise to certain residual substances from which rum, molasses, and molascuit are derived. The

output of the last two of these articles is usually in inverse ratio to that of the first, since they are not remunerative when rum commands a good price. In British Guiana the production of rum has been the subject of investigation on scientific lines for many years, and in many distilleries it has been brought to perfection. Rum is produced in the course of a rapid fermentation, extending from 36 to 48 hours, by the setting up of a wash of molasses diluted with water. The distilleries are of two types, using respectively pot stills and continuous, rectifying stills. In 1914 there were 27 distilleries of the first type and 9 of the second. From 130,000 to 200,000 gallons of home-made rum are cleared annually for domestic consumption, and from 3 to 3½ million gallons are exported.

Future Possibilities of Sugar.—The present output of sugar gives no indication of the potentialities of the country; for existing plantations might be extended, and entirely new areas might be brought into cultivation. Altogether a great potential sugar-bearing area exists, and the extent to which it may be made available for production depends upon the supply of labour, the provision of capital, and the price of sugar. For the labour difficulty immigration in one form or another could provide a remedy. In recent years indents for labour have been small, and unindentured labour has sought other employment on the balata forests, the goldfields, and the farms. The opening up of the interior by a railway would probably have the effect of attracting population, and upon this population the coast estates could draw in times of pressure. As regards capital, it seems likely that plenty of money would be available if there were a reasonable certainty that the price of sugar would remain remunerative; and to achieve such a certainty many of those who are interested in the welfare of the colony advocate a policy of preference, pointing as an example to the case of Cuba, which received preferential treatment from the United States in 1903, and now exports three times as much sugar as was ever reaped under free trade.

In British Guiana rather less than one half of the total empoldered area is actually under sugar cultivation, and, as some 85 per cent. only of the cultivated land is reaped every year, not more than 38 per cent. of the empoldered area contributes to the yearly production. In normal years the average production is about 1·8 tons an acre, though under favourable conditions some well-administered plantations yield 2·10 tons or more. The whole empoldered area, so far as it is capable of economic cultivation, might, perhaps, yield some 150,000 tons a year. In addition, between the Pomeroon and the Corentyne there are some 467,000 acres not occupied by other crops and available for the extension of sugar-growing; and to the west of the Pomeroon, where the sugar-cane has never yet been planted but where the land is of marked fertility, there are nearly a million acres more. The present output, though it looms large in Guianese economy to-day, would be reduced to proportions of insignificance if the greatest possible amount of suitable land were utilised with the maximum of capital, labour, and enterprise. In view of the sugar situation created by the closing of Continental markets on the outbreak of war the West India Committee approached the Governments and planters of the sugar-producing portions of the Empire to ascertain how much each would be capable of turning out, should an attempt be made to render the Empire self-supporting, and should prices be guaranteed. For British Guiana it was replied that her maximum output might be fixed at about 2,500,000 tons yearly.¹ According to the returns furnished to the Committee this is incomparably the greatest expansion of which the industry is capable in any part of the British Empire, and it

¹ The maximum sugar output of the colony was estimated at four million tons in a telegram published in the *Times*, August 17, 1918, the estimate being based upon a yield of two tons an acre from an area of two million acres. The telegram said that the denunciation of the Brussels Convention is regarded in British Guiana as the precursor of a preferential tariff for colonial cane

would amount to a considerable proportion of the Empire's highest possible yield. Nor would it fall much below the world's total production of cane sugar at the present time.

(ii) *Rice*.—Of recent years the cultivation of rice has made rapid strides, and this crop now occupies 30 per cent. of the cultivated area. In 1873 there were imported 32,000,000 lbs. of rice; in 1902-3, when there were 16,628 acres under rice, a small export, chiefly to the British West Indies, began; and in 1916 rice occupied 57,000 acres, and the export of it reached nearly 30,000,000 lbs., worth £217,000. Of the acreage under this crop more than 4,000 acres yielded two crops in the last-mentioned year. The increase in the cultivated area has been particularly marked in the Mahaica, Mahaicony, and Abary River districts, and has been due in a measure to the operations of the Abary Rice Company, which empoldered several thousand acres of virgin savannah for the purpose of producing rice by mechanical tillage. In the matter of rice-growing, too, the East Indian immigrants, of whom there are considerable numbers, are "to the manner born."

On the Abary Rice Company's estates, a plantation under American management, the experiment has been tried of employing tillage machinery precisely similar to that which is used in Canada and the States for the cultivation of wheat. It is claimed that with this machinery 250 men can do as much work as would be done by 2,000 East Indians with their primitive hand appliances. The irrigation and drainage difficulty has been surmounted by making a few long trenches instead of a network of small ones, and the manager of the estate has expressed the opinion that sugar-planters might successfully adopt

sugar, and that the confidence of the proprietors is being shown by their considerable importations of sugar-making machinery. Sea defence works, it added, were being undertaken, to assist the industry; £200,000 had already been spent, and a further £100,000 had been voted by the Legislature. The labour scarcity was thought to be the only disquieting feature in the situation.

the same course and thereby effect important economies in labour. There are several large and many small rice-mills scattered throughout the rice districts; they number 103 in all, of which more than half are in Demerara County. The crop does best on the front portion of the coast-lands, where rice of an excellent quality is produced; and very large areas exist which are eminently suitable for its cultivation. The Director of Science and Agriculture is convinced that British Guiana might "become the granary for the West Indian Islands, if ever the cultivation of Sea Island cotton attains the great development which is said to be in store for it in those islands."¹

(iii) *Coconuts*.—Twenty thousand acres, or about 11 per cent. of the cultivated area, are under coconuts, which grow on the coastal lands, the acreage having doubled since 1910. As the palm takes from 7 to 10 years to come to maturity, much of the recently planted land has not yet reached productivity, and in a few years' time the yield will increase materially, even should no further expansion take place. The colony possesses six oil or oil and fibre mills, and a considerable portion of the crop is consumed locally or employed in domestic manufacture; but the export of coconuts, copra, and oil, which scarcely existed ten years ago, amounted in value to nearly £12,000 in 1916. The colony contains a wide area of land suitable for the cultivation of the palm.

(iv) *Coffee*.—This was one of the principal exports of the colony in the first half of the last century. Berbice River coffee having a great reputation among connoisseurs; and in 1830 nearly 10,000,000 lbs. were sent abroad. But coffee shared in the misfortunes which overtook other branches of agriculture after the emancipation of the slaves; and for some 50 years such coffee as continued to be grown was consumed locally. Early in the present century, however, the industry was to some extent revitalised, and it is now making pro-

¹ *Annual Report*, 1908-9.

gress. Occupying less than 1,000 acres in 1902, it covered 2,000 acres in 1910; 3,000 in 1913; and 4,600 in 1916. Exports have risen from £1,500 to over £10,000 in 9 years. The plant grows well on the lower rivers, and about half the area now under the crop is situated in the Canal Polder area. *Coffea robusta*, a Congo variety grown largely in Java, appears to do well in British Guiana, and it may be grown as a catch crop between rubber trees.

(v) *Cacao* is grown, but makes little progress. Some 2,000 acres were devoted to this product 10 years ago, and the present figures show no increase. There are six factories in the colony, and a large proportion of the yield is used locally in the preparation of chocolate and confectionery, the export being insignificant. Like coffee, cacao grows well on the lower river lands; there is an extensive belt of land suited to its cultivation; and its growth is not extending as it ought.

(vi) *Rubber*.—A wild rubber, indigenous to the country, is found in the forests, but it is of poor quality and little value. Para rubber, the first seeds of which were imported in 1895, grows well on the river lands provided they are sheltered and well drained; it will also flourish on the slightly elevated tract immediately behind the coastal region; and it has done satisfactorily on valley lands in the interior, for example, near Rockstone. Tapping is at present on a small scale, as most of the trees are young; but initial operations seem to show that the yield will compare favourably with that obtained in the Straits Settlements, in the Malay Archipelago, or in Ceylon, and that the quality of the product is excellent. Yet the cultivation of rubber shows little signs of increase; the acreage under it has remained stationary at about 4,000 acres since 1913, and the export is negligible.

(vii) *Limes*, on the other hand, must be reckoned among the progressive products of the agricultural industry. Their economic importance is of quite recent origin—they first appear in the acreage returns in 1911—but they now cover about 1,000 acres, and in 1916

there was an export of 446 cwt. of citrate of lime, 8,600 galls. of lime-juice, and 290 galls. of oil of limes. The Government lately undertook to build a small factory at Onderneeming for the preparation of concentrated lime-juice; and the erection on two plantations on the Berbice and Essequibo rivers of machinery for the production of concentrated juice and citrate of lime has helped to encourage this infant industry. The colony is exceptionally well suited to the growth of limes, and there seems no reason why it should not become one of the most important producers of limes and lime products in the world.

(viii) *Cotton*.—The growing of cotton used to form one of the staple industries of the country; but it ceased about the middle of the nineteenth century, and but for a brief revival during the American Civil War has never prospered since. Efforts have been made to resuscitate the industry, but the results have not been encouraging. The soil of the coast-lands, a heavy clay, is unsuited to the growth of Sea Island cotton; and, even if a suitable variety were to be discovered, the labour problem would remain to be faced. In the first place, the cost of labour is higher in Guiana than in the West Indian Islands. Secondly, climatic conditions require that cotton should be planted so as to ripen between the end of August and the end of November, and it is precisely in this season that the bulk of the sugar and rice crops is harvested and that the demand for labour is most insistent.

(ix) *Other Crops*.—The rest of the cultivated area consists for the most part of small farms and of holdings on which ground provisions are produced. The farms contribute in a modest way to the sugar output; for, although the *métayer* system does not exist as such,¹ canes are being purchased by the estates from village farmers or from farmers who are growing canes on the estates' lands. Provision grounds are found at the back of the plantations, on the lands of the coastal

¹ *Blue Book*, 1916.

villages, and on the lower rivers. Indian corn, cassava, yams, and sweet potatoes ripen all the year round, and are easily grown except for the risk of an occasional drought; plantains, bananas, and mangoes are used as food; and fruits such as oranges, guavas, pineapples, grenadillas, and avocado pears grow in abundance and are usually to be obtained in the markets. The plantain is the staff of life to the negro, and, as it is by him that it is for the most part grown, it tends to rise in price with the occurrence of any event which produces an exodus of negro labour to the goldfields. The best market-gardeners are found among the Portuguese, who are conspicuous for their energy and ability in every trade; the Chinese are also successful in the production of ground provisions.

Much fruit is wasted every year because it is so abundant that it does not pay to send it into market. But with a little enterprise and a little capital the whole crop might be utilised in making jams and jellies. Preserves made of guava, mango, the Barbados cherry, and other fruits of the country would greatly excel the jams which are now imported; and if only a regular supply could be guaranteed, an export trade in them might be set on foot.

The question of attempting to establish an export trade in bananas has often been considered, especially in consequence of the action of the Dutch authorities, who, in 1906, contracted with the United Fruit Company for the creation of a subsidized banana industry in Surinam. For the purpose in question only two sorts of banana are of any value—the dwarf or Chinese variety for the markets of Europe, and the Gros Michel or Jamaican banana for the markets of North America. The dwarf variety, which ripens irregularly, is thin skinned, and gets easily bruised; it would require to be packed in crates and shipped in cold storage; and it would have to face the competition of the products of the Canaries and other regions nearer home. The Gros Michel market is entirely controlled by the United Fruit Company, whose requirements rule out the small

grower without attracting the capitalist. Their terms involve cultivation on a large scale, in proximity to a port of shipment, with a central organization to handle shipments, and an ample labour supply. In view of these requirements and of the fact that the Surinam banana estates have been ravaged by disease, it is not surprising that the Commission which was sent from British Guiana to investigate the Surinam experiment should have reported adversely to the adoption of a similar scheme in their own colony.

(x) *Live-stock*.—Cattle-raising is carried on upon the flat portions of the coastal region and upon the savannahs inland. In 1916 the Abary Cattle Ranch Company held 10 square miles of land of the former sort, on which they had rather over 2,000 head of cattle; and on the Rupununi and Takutu savannahs at the same date there were 12 concessions, held by 11 different ranchers, which covered nearly 600 square miles. The head of cattle in that year was estimated at 100,500, but it is certain that the estimate fell far short of the actual number. Horses were returned at 1,010; sheep at 22,800; goats at the same number; swine at 12,500; and donkeys at 6,500. In its great savannahs the colony contains large areas suitable for stock-raising, and there is room for much greater activity than at present exists, though before any great expansion could occur steps would have to be taken to guard against swamping in wet seasons and to provide drinking water in times of drought. The export of pastoral products is stationary at about £8,000 a year, while the colony imports considerable quantities of meat, butter, milk, and cheese. In 1916 there were four tanneries and leather factories, and seven dairies.

(b) *Forestry*

The forest industry is of some importance, and its exports consist of balata to the annual value of £100,000; of timber to the value of £30,000; and of about £8,000 worth of charcoal, the whole amounting

to 6 per cent. of the total exports of the colony. Balata, a gum obtained by bleeding the balata or bullet tree, is a good substitute for gutta-percha, and the increasing scarcity of that article during recent years has promoted the growth of the balata industry, the export having trebled in value between 1902 and 1916, according to the quinquennial averages. Tapping, which is the subject of strict Government regulation, is done by incision on a feather-stitch pattern up the trunk of the tree.

As regards timber, hundreds of woods are found in the colony in all varieties of weight and texture, from woods that are light and soft to the heaviest and hardest in the world, and in all varieties of colour from nearly black through crimson and brown to almost pure white. Greenheart will last for a hundred years or more; a dense, close-grained wood, almost free from knots, it is excellent for shipbuilding and for dock-gates, piles, wharves, or any purpose which involves prolonged immersion in water. It is procurable in logs from 60 to 80 ft. long, and up to 2 ft. in diameter. Mora, though not so durable as greenheart, is a good timber, and is considered to be superior to oak. Wallaba is another useful wood which is widely employed in the colony; being easily split, it is convenient for shingles, palings, and vat staves, whilst its logs are used for posts and joists. Vats made of this wood prove excellent for the storage of water, and its shingles are less inflammable than those made of cedar. Many of the darker and heavier woods are used for furniture-making, and crabwood is a good substitute for mahogany, possessing the merit of being more easily worked. The most singular of the ornamental woods is letterwood, so called from the dark markings across the grain which resemble irregularly formed letters. Being obtained from the heart of the tree, it rarely exceeds 6 in. in diameter. It has been an article of export for many years, and good pieces command high prices. The import of cheap white wood, pitch pine, and American lumber for building

and other purposes is attributable to their greater ease of working; but native woods with their capacity for resisting dry rot, moisture, and ants are undoubtedly superior; and the use of them would probably prove an economy in the long run. In 1916 there were in the colony eleven steam saw-mills, one water-power mill on the Demerara for cutting scantling and plank, and one steam wood-working factory in Georgetown.

Amongst the by-products of the forest industry cordwood and charcoal are the most important. As a general rule charcoal is burnt in hollows made in the sand, but the Chinese woodcutter, with the patient ingenuity of his race, is wont to erect a proper dome-shaped kiln of clay, from which he is able to turn out a very superior article. Charcoal is used in "Dutch stoves" throughout the colony, and wood is one of the principal fuels of the sugar factories.

Very little of the forest region is in private ownership, and on Crown lands timber and balata are got under licences issued by the Department of Lands and Mines. The grant is an oblong area, usually 2 miles in length by half-a-mile wide, and except in the vicinity of the up-country railway its base abuts upon the lower stretch of a river or creek, for the haulage of heavy logs overland is difficult and costly, and the numerous cataracts and rapids of the upper rivers render water transport impossible. As many Guiana trees are of a specific gravity greater than that of water, their carriage by water as an inside cargo would require a vessel of inconveniently great draught. The practice is therefore to brace them with *lianes* or bush ropes to the outside of large punts, suspended upon which they are floated downstream to market. The Indian who steers the punt makes of it a home for his family. It also serves the subsidiary purpose of conveying the labourers who have been working on the grant.

The resources of the forest are almost inexhaustible. The Crown forests are estimated to cover nearly 80,000 square miles, of which 11,000 are available for timber-cutting, though even in this great area the parts

abutting upon suitable rivers will get worked out in time. Besides timber and balata

"several forest products of considerable importance remain to be utilised, notably, tonka beans, used in perfumery, mangrove and other tanning barks, medicinal barks and seeds, India rubber, hyawa gum, used for incense, oils from crabwood nuts, and a number of palms, . . . nuts, basts, and fibres. Some of these are already well known, while others will no doubt be found of considerable importance in the future."¹

It may be added that the forests abound in soft woods suitable for paper pulp, of which no use is made at present.

(c) *Land Tenure*

Excluding wood-cutting and balata-collecting licences, which are temporary, and give no rights in the soil, 255,177 English acres were held under lease and licence on December 31, 1916; the number of acres held under grant was 740,157; and the number of acres remaining unalienated was 56,271,539. Freeholds, or the equivalent of them, have their origin in grants made under the old Dutch regime or in concessions of Crown lands under the British. Some of the old grants were subject to conditions as to cultivation, road maintenance, and so on, or to quit-rents. Crown lands are not now being sold, except in very small parcels for homesteads, but are leased for periods not exceeding 99 years. Leases for the cultivation of rubber, coconuts, limes, and other permanent agricultural products are for terms of 99 years, free of rent for the first 5 years but subject to improvement conditions. Licences to cut wood and to collect balata are usually for short terms, from 1 to 5 years being the usual periods, but may be renewed on application. The tracts licensed are not surveyed, but must be defined by natural boundaries, such as two creeks. The holders of the licences are subject to regulations regarding the employment of aboriginal Indians, the size of the trees to be cut or tapped, the removal of the

¹ J. Rodway, *Handbook of British Guiana*, p. 50.

products, which must be under permit, and the payment of royalties. In the Appendix are given statistics of grants, leases, and licences (Appendix B, Table I), and of agricultural distribution (Appendix B, Table II). Of the cultivated area $57\frac{1}{2}$ per cent., is in Demerara County, $26\frac{1}{2}$ per cent. in Berbice County, and 16 per cent. in Essequibo County.

(d) *State Aid to Agriculture*

A Board of Agriculture was established in 1910-11 for the purpose of assisting and improving agriculture in the colony. It is entrusted with powers for dealing with the diseases of animals and plants, and for maintaining botanical gardens in Georgetown and experimental stations in various parts of the country. It is also empowered to collect and publish statistics and information useful to persons engaged in agriculture, and to promote technical instruction. British Guiana being essentially an agricultural country, sound agricultural training is of an importance for its growth which can hardly be over-estimated. A good many of the primary schools have gardens attached to them; a system of model gardens has been revived; and an agricultural school has been established on the same lines and principles as those on which such schools have been set up by the Imperial Department of Agriculture in other West Indian possessions. Also a training in agriculture is given to most of the inmates of the Government Industrial School at Onderneeming, which is worked as a farm school, and has a considerable acreage under coffee, cacao, rubber, limes, fruit trees, etc.

The Royal Agricultural and Commercial Society, instituted in 1844, publishes a journal, keeps up a technical library, and takes in the more important periodical literature.

(3) FISHERIES

The fisheries of the colony are not of much importance. Three schooners are sent out from Georgetown for deep-sea fishing outside, the fish chiefly caught being the red snapper, which attains a weight of 30 or 40 lbs. and the grouper, with an occasional so-called dolphin (*coryphæna*). A fair supply of sea fish is generally kept at the ice depot in Georgetown, but ice is not widely used. Boats, owned mainly by Portuguese, fish off shore for gilbacker, the flesh of which, not unlike sturgeon in taste and quality, commands a good price among the Creoles, whilst its sounds are sold as isinglass. During 1916 isinglass to the value of £1,107 (17,991 lbs.) was exported. The fish on sale in the Georgetown market are mostly rather coarse, though a few, such as the mullet and the butterfish, are more delicate. Fish and prawns, or "shrimps," caught in large quantities by dipping with handnets or baskets in the trenches and canals, form a considerable portion of the animal food of the poorer classes on the estates and in the villages. The fish of the interior are an important article in the dietary of the native Indian.

There is abundance of fish in the waters of the colony, but fishing is comparatively neglected as an industrial pursuit, and there is room for development in several directions, especially in sea-fishing, curing with the aid of ice, smoking, and canning. Salt cod, herrings, and mackerel are imported in considerable quantities, but no fish of the colony are cured.

(4) MINERALS

Gold.—From 1879, when gold was first discovered in British Guiana, until December 31, 1916, the colony produced 2,523,817 ounces of the metal, of the value of £9,181,105. Mining on a serious scale began in 1886 with an output of 6,518 ounces, worth £23,763, and from then the industry underwent rapid

expansion until 1893-94, in which year production amounted to 138,527 ounces of a value of over £500,000. In the next year, however, a gradual decline set in, which has been almost consistently progressive ever since; over 100,000 ounces were still produced until 1902-3, but the output was down to below 70,000 ounces in 1907-8, and was not much above 50,000 ounces in the years from 1910 to 1913. The year 1913-14 saw a recovery to 82,706 ounces, but 1915 and 1916 have been the leanest years since 1889-90, and that not entirely owing to causes attributable to the war. It is true that the increase in the price of necessaries and the rise in wages in other industries occasioned by the war have reacted adversely upon the goldfields; but the effect of other circumstances has been still more potent. The alluvial workings from which the bulk of the gold is won are showing symptoms of exhaustion; under the improved conditions brought about by the action of local administrative bodies the villagers, who used to go to the goldfields, are tending to take up agriculture around their own homes; and no sensational "finds" have occurred of late. For some years past the industry has also suffered by the gradual withdrawal of the support formerly accorded by the small local capitalist in the way of fitting out little expeditions—a withdrawal due in part to loss of money through the incompetence or dishonesty of those to whom the ventures were entrusted, and in part to increasing desertions on the part of the labourers engaged. The inaccessibility of the fields, the difficulties and delays of navigation, the high price of necessaries, and the virtual impossibility of transporting machinery to the more distant areas are obstacles to success. There is no scope for the peripatetic digger on the Australian or Californian model in a country where the prospector must hire a boat and crew, spend many days in reaching his objective, and after locating his claim return to Georgetown for labourers, rations, and plant before paying operations can be begun. The weather, too, is the small man's

enemy, since for weeks together it may be so dry that he cannot get water for washing operations or so wet that his diggings are flooded out, in either of which events his takings vanish while his expenses undergo no sensible diminution.

Such new life as has been infused into the industry during the last fifteen years has been due for the most part to foreign enterprise, notably to a German syndicate operating at Omai on the Essequibo, an English company dredging on the Konawaruk, and an American company working the Peters Mine on the Puruni. The German company closed down a good many years ago; the Americans suspended their operations in 1910; and their mine remains closed after a brief attempt at resuscitation by other hands. Gold undoubtedly exists over large areas in the colony, and it is possible that the richest deposits have not yet been found; for prospecting in dense forests is a matter of extreme difficulty, and

“ for every square mile of gold-bearing country in the colony that has been exploited it may be said there are fifty that have never been trodden by the foot of the prospector.”¹

It is therefore possible that the future may have its surprises, and prophecy is perilous; but it does not seem likely that the gold-mining industry of the colony will ever revive to any marked extent. It may, indeed, be thought remarkable that, despite crude methods and the lack of systematic prospecting, the output should have maintained the comparative stability which it has shown over a long series of years.

By far the largest proportion of the gold won is obtained from alluvial washing on the placers by the “sluice” and “tom” methods, but dredging, quartz-milling, and hydraulic mining are also practised. Dredging has been conducted on the Essequibo, Konawaruk, and Potaro rivers, and down to 1915 has yielded 77,715 ounces. A slightly smaller quantity, namely, 68,327 ounces, has been derived from quartz-milling, to

¹ *Annual Report, 1907-8.*

which the Peters Mine on the Puruni, the Barima Mine, and the Aremu Mine on the Cuyuni have been the chief contributors. Hydraulic mining has yielded 38,367 ounces, produced by the Omai Gold Mining Company and by the Tassawini Mine on the Barama River. As regards the alluvial deposits, gold is generally found in the channels of present or of former streams, the "pay-dirt" being usually a yellow clay lying under layers of pebbles and gravel. As a rule the gold is scattered and is often in the form of fine dust, but lumps of rich quartz and nuggets are discovered occasionally, the record "find" being a nugget of 334 ounces, which was almost pure gold. The "pay-dirt" is puddled in long or short wooden boxes, known as sluices and toms respectively, where the stones are picked out, the gold and fine dirt being washed through perforated plates into troughs lined with quicksilver; the gold is captured by the quicksilver and is recovered by distilling. The yields from a sluice vary greatly, five or six pounds being recovered on a good day and a few ounces only on a bad one. Mining is carried on entirely upon Crown lands and under licence from the Government, which imposes regulations and exacts royalties.

The chief producing areas since 1898 have been the valleys of the following rivers: the Potaro, with 347,493 ounces; the Cuyuni, with 298,191 ounces; the Barima, with 246,673 ounces; and the Essequibo, with 222,394 ounces. Then come the Puruni, with 140,958 ounces; the Barama, with 108,733 ounces; and the Mazaruni, with 91,308 ounces. Groete Creek, and the Waini, Wenamu, and Demerara districts have produced together 43,483 ounces.

Precious Stones.—Diamonds and other precious stones have been found in the course of searching for gold. The output in 1916 was 93,782 diamonds, weighing 16,408½ carats and having an estimated value of £34,184. Nearly all of these came from the alluvial workings of the Mazaruni River district. On the average of the years 1902-16 the annual export

has been 7,325 carats of the value of £12,591. Though the stones found have been small, they have been of good water; but the industry has suffered from the cost of transport to the fields.

Quarries.—Granite, quartz, and basalt, with small quantities of metal in them, are quarried. None has ever formed an article of export. No royalty is now levied on stone quarried on Crown lands.

Mineral Oil.—Indications of the existence of mineral oil have been discovered. On December 31, 1916, there were in existence 9 licences to explore for mineral oil, all affecting areas in the North-West District. Under two of the licences the holders were entitled to prospect by drilling. No results had been recorded up to the end of the year; but mineralogists believe that conditions similar to those met with in Trinidad exist in the colony, and interest in the possibilities of an oil industry has recently been revived by an application for a large concession on the part of an important British firm.

Bauxite.—Prospecting for this mineral began in 1914-15, when deposits were located on the Upper Demerara River, and quarrying titles were applied for. Rich deposits have also been located in the neighbourhood of Yarikita. In the following year negotiations were opened by the Imperial Government on behalf of the colony for leasing Crown and colony lands on the Demerara River to a large company, which also acquired from private individuals the freehold of, or mining rights over, a further 20,000 acres in the same district. A considerable number of applications for bauxite leases were filed in 1916, and 400 further applications during 1917-18. The applications embrace an area of 652,940 acres. No concessions will be made at present, as the policy of the Government is to reserve the whole question for consideration after the war in connection with the general policy of Imperial trade and defence. The Demerara Bauxite Company is reported to have shipped over 2,000 tons during 1917-18.

Manganese, etc.—According to a recent telegram,¹ prospecting similar to that which led to the foundation of the bauxite industry has furnished further evidence of the mineral wealth of the colony. Samples of manganese ore and mica have been brought back from the interior; valuable deposits are believed to exist; and many applications for licences have been filed. The authorities have offered special terms to miners, prospectors, and mining companies who are willing to place at the disposal of the British Government such minerals as it may require.

China clay, or kaolin, of pure quality exists in large quantities on the Corentyne and Berbice rivers, and it is also found on the Demerara River. Its accessibility for shipping purposes is an advantageous feature, and a large output would apparently be practicable.

(5) MANUFACTURES

Over and above the sugar and cacao factories, rice and oil mills, saw mills, and tanneries (which have already been mentioned), the colony cannot boast of much in the way of industrial undertakings. Georgetown is lit by electric light, manufactured by the company that runs the tramway service. In New Amsterdam the electric light undertaking is in the hands of the municipality. There are besides two boot and shoe factories, a steam bakery, a biscuit factory, two match factories, and three cigar factories. The two boot and shoe factories are well equipped, and are capable of producing, the larger from 2,000 to 3,000, and the smaller 500, pairs a week. In each case the product is good and cheap, and finds a ready sale.

(6) WATER POWER

In the Kaieteur Falls, which are five times as high as Niagara, and have a width varying from 350 to 400 ft., the colony possesses a valuable asset in

¹ The *Times*, August 9, 1918.

potentialities for power-production, and the time may come when power generated by the Falls will be used to work the sugar mills, to drive the mining machinery, and to propel the railway trains of the country. For the present, however, the small number of established industries requiring power, the small population of the colony, and the remoteness of the Falls, which are eleven days' journey from Georgetown, render the utilization of their resources commercially impracticable.

(C) COMMERCE

(1) DOMESTIC

Domestic commerce calls for no remark beyond what has already been said in connection with industries or will be said under the heading of imports below. Georgetown is the principal, and for practical purposes may almost be regarded as the only, centre of commercial activity. There is a Chamber of Commerce there incorporated under an Ordinance of 1890, its objects being the protection and promotion of the local, inter-colonial, and foreign trade and of the manufactures and industries of the colony.

(2) FOREIGN

(a) *Exports*

(i) *Quantities and Values.*—During the period 1902-16 the exports of the colony show a considerable, though not a steady, expansion. Of the value of £1,829,743 in the first of those years, they reached £3,758,066 in the last (see Appendix B, Table III); and from £1,893,666 on the average of the first five years they have risen to £2,741,837 on the average of the last five. They exceed the imports in value.

The principal articles exported are sugar, which accounts for 60 per cent. of the total exports on the average of the period 1902-16; gold, 11½ per cent.; rum,

8½ per cent.; balata, 4½ per cent.; and rice, 2 per cent. Of these sugar, rum, balata, and rice are increasing, while gold is decreasing. Among the less important exports increases have occurred in coconuts, coffee, copra and coconut oil, rubber, and citrate of lime; while molasscuit, molasses, and flour show decreases, and timber, diamonds, charcoal, cattle, leather, cacao, and isinglass are stationary or fluctuating. Sugar and its by-products together account for nearly 70 per cent. of the total exports; all agricultural products together account for 72½ per cent.; mining products for 12 per cent.; and forest products for 6 per cent. The quantities and values of the principal exports will be found in Appendix B, Table IV.

(ii) *Countries of Destination*.—The United Kingdom, which has taken 43 per cent. of the export trade on the average of the years 1902-16, is the colony's largest customer; British possessions take 38 per cent.; and foreign countries take 19 per cent. (see Appendix B, Tables VI and VII). Exports to the United Kingdom have increased from £772,911 on the average of the years 1902-6 to £1,154,001 on the average of the years 1912-16. Among British possessions Canada takes the lion's share, and exports to her have doubled from the first to the third quinquennial period. The increase was particularly marked in the years 1915 and 1916, and was mainly due to the Canada—West Indies Tariff Agreement, which came into effect in 1913 (see below, p. 78), but may also have been assisted by the abnormal conditions brought about by the war. The British West Indies have a small, but growing, share in the trade. Among foreign countries the chief customer is the United States, with 13 per cent. Exports to America, however, are falling rapidly, and the decrease would have been still more marked but for a sudden expansion, due to the war, in 1916. Once a large buyer of the colony's sugar, the United States have practically closed their markets to it through the more favourable terms given to sugar from Cuba and the Philippines; and this fact, coupled with Canada's

preference in favour of West Indian sugar and her taxation of the German product, has diverted the Guiana sugar trade to Canadian channels. France took exports to a considerable value in 1915 and 1916, but normally her custom is insignificant. Exports to Dutch and French Guiana are increasing; to the Dutch West Indies and Portuguese Possessions are decreasing; and to Holland, Germany, and Venezuela are stationary or fluctuating. British Guiana has also a considerable trans-shipment trade; for owing to her geographical position and to her shipping services she acts as a receiving and distributing centre for her French and Dutch neighbours.

(b) Imports

(i) *Quantities and Values.*—During the period 1902-16 imports have tended upon the whole to increase, though not to the same extent as exports. Of the value of £1,444,084 in the first of those years, they reached £2,471,944 in the last (see Appendix B, Table III); and from £1,598,142 on the average of the first five years they have risen to £1,920,752 on the average of the last five.

Imports do not call for much detailed comment. There is no dominance of any one article, as of sugar in the case of exports. The chief articles imported (see Appendix B, Table V) are cotton, linen, and woollen manufactures, with a mean percentage of 10; flour, 10 per cent.; manures, 8 per cent.; and machinery, $4\frac{1}{2}$ per cent. All of these except the last show a slight tendency to increase. Meat, oils, fish, and bullion and specie, each with a mean percentage of about 3, come next. Oils, bullion and specie, tobacco, butter, boots, and grain show small increases. The great decrease in the import of rice, to which allusion has already been made, is, perhaps, the most striking feature of the imports; whereas nearly 16,000,000 lbs., of the value of £71,513, were imported on the average of the first quinquennial period, only 34,000 lbs., of the value of £320, were imported on the average of the third.

(ii) *Countries of Origin*.—The colony buys most from the United Kingdom, which has supplied £869,251, or 52 per cent., of the imports on the average of the period 1902-16; British possessions have supplied 14 per cent. and foreign countries 34 per cent. (see Appendix B, Table VI). Amongst British possessions Canada provides 9 per cent. of the imports; the British East Indies 3 per cent.; and the British West Indies 2 per cent. Comparison of the periods 1902-6 and 1912-16 shows that Canada has doubled her trade, and the British East Indies have nearly doubled theirs. As regards Canada, the increase is attributable mainly to the Preferential Tariff Agreement (see below, p. 78). Amongst foreign countries the trade with the United States, which supplies 28 per cent of the imports, is stationary; that with French Guiana and Dutch Guiana is increasing; and that with France, Holland, Venezuela, Portuguese Possessions, and Germany is fluctuating, with a tendency to diminish. The abnormal conditions in 1915 and 1916 brought about by the war have benefited the United States and the adjoining Guianese colonies. Cotton and woollen manufactures, wearing apparel, and silks used to be supplied in large quantities by Germany and Austria through the United Kingdom, and there was also a trade with Belgium and Holland in haberdashery, millinery, and paper manufactures.

(c) *Tariffs*

From the point of view of the Customs dues leviable in the colony imports fall into three classes: articles charged with specific duties, articles charged with *ad valorem* duties, and articles exempted from duty. Specific duties may be further distinguished according as they are levied on a general rate alone or levied partly on a general and partly on a preferential rate under the Preferential Tariff Agreement. In almost every instance the preference under

the agreement has been effected by means of a reduction of the existing rate of duty to form the preferential rate, the former thereby becoming the general rate. In the case of flour the preference has been fixed at 25 cents a barrel of 196 lbs.; in nearly every other case the preferential rate is four-fifths of the general rate, that is to say, it is equivalent to a preference of 20 per cent. Duty is levied at a general rate without preference upon a list of articles which includes beer, ale, cider, etc.; tobacco, cigars, pipes, matches, etc.; guns, pistols, and gunpowder; salt; tea, cocoa, coffee, rice, jams and pickles, and butter substitutes; and oils, petrol, and benzine. Horses, cows, sheep, and swine; staves and headings; lumber; biscuits, butter, lard, condensed milk, cheese, tinned fish, dried fruits, pickled meats, and preserved vegetables; wheat, corn, beans, and farinaceous preparations; hay and chaff; common soap; paints; and bituminous coal are chargeable with duties on a general and on a preferential rate. *Ad valorem* duties are levied on brooms and brushes, boots, shoes, and slippers, glass, furniture, plated ware, wire fencing and metal gates, etc. The list of exemptions includes agricultural implements; chemicals for water purification and gold mining; launches and steamers; railway plant; machinery for agriculture, electric light, railways, mining, sawmills, foundries, etc; manures and agricultural washes; seeds, plants, and bulbs; steam boilers, diggers, and dredgers; telegraph and telephone materials; and tools for artisans, miners, and gold diggers.

Preferential Tariff Agreement.—On June 21, 1913, there came into operation a reciprocal trading agreement between the Governments of Canada on the one hand and of certain of the British West Indian possessions, including British Guiana, on the other. Under the terms of this agreement, which is to last for 10 years, the customs duties on certain goods, which are produced or manufactured in Canada, imported by parties to the agreement, are not to be charged with more than four-fifths of the duties ordinarily in force,

except that the preference in favour of Canadian flour is to be not less than 12 cents (6*d.*) per 100 lbs. The duties on certain goods, the produce or manufacture of the contracting colonies, imported into Canada, are likewise to pay not more than four-fifths of the duties ordinarily in force, except that there are special provisions for sugar and molasses, whilst cacao beans, limes, and lime-juice are entitled to free entry. British Guiana has also admitted the United Kingdom and Newfoundland to the benefit of this arrangement. It is mainly in consequence of this agreement that Canada is increasing her hold on the export and import trade of the colony, and the United States are losing theirs (see Tables VII and VIII, Appendix B). In the matter of flour, for instance, Canada was already making headway in the local market, and the progress has been much accelerated. Canadian flour represented 29 per cent. of the total flour imports in 1912, 51½ per cent. in 1913, and 75 per cent. in 1914, the figures of the United States for the same years being respectively 68 per cent., 48 per cent., and 24½ per cent. Similarly with sugar—British Guiana's export of sugar to Canada was worth £467,181 in 1906-7, and £1,129,159 in 1915, the figures of the United States for those years being respectively £351,115 and £37,835.

(D) FINANCE

(1) *Public Finance*

The public finance of the colony is sound. In the years since 1888-89 there have been deficits on only five occasions, and the sum total of these has been largely exceeded by the surplus of revenue over expenditure in other years. The revenue is derived mainly from customs duties and excise dues, which produce 80 per cent. of the receipts. The judicial administration (including police and prisons), the medical department (including hospitals), and public works are the chief items in the expenditure. On the annual average of

the years from 1904-5 to 1910-11¹ the budget was as follows:—

(1) *Revenue*

	£
Customs	325,948
Excise	104,676
Judicial fees, etc.	19,479
Posts and telegraphs	17,232
Gold industry	15,403
Government lands, etc.	14,446
Crown lands	11,512
Repayment of loans... ..	7,193
Miscellaneous	21,672
Total	£537,561

(2) *Expenditure*

	£
Justice, police and prisons ...	91,409
Medical departments, hospitals, etc.	68,823
Public Works	51,128
Municipal and other subventions	43,709
Public Debt	41,603
Pensions	39,354
Education	35,149
Receiver-General, Government Secretariat, etc.	26,262
Post Office	22,881
Ministers of religion	19,960
Lands and mines	15,989
Customs and excise	14,845
Poor	13,154
Science and agriculture... ..	8,306

¹ *Annual Reports*. The period selected for purposes of illustration seems to be the most convenient for the following reasons: a customs surtax of 5 per cent. was abandoned at the end of 1903-4, considerably reducing the revenue; an extensive re-arrangement of the system of accounts was carried out in 1911-12, and the financial year was changed in 1915.

	£
Immigration department ...	7,140
Harbours and pilotage...	3,492
Miscellaneous ...	22,528
Total ...	£525,732

On December 31, 1916, the colony had a surplus balance of assets over liabilities amounting to £110,697. The public debt at that date was £879,990. Full provision is made each year for sinking fund and interest in respect of loans, for which the revenues of the colony are directly pledged, and at the date mentioned the sum of £202,820 stood to the credit of the Sinking Fund account.

Of the moneys raised by loan for public purposes a considerable part has been advanced to corporations and public bodies. At the close of 1916 the funded debt of Georgetown was £69,378; that of New Amsterdam was £6,937. Georgetown has a revenue and expenditure each of about £60,000 a year, the former somewhat exceeding the latter, and being raised by town taxes, market fees, water rates, etc. The budget of New Amsterdam balances at about £10,000.

(2) *Currency*

Accounts are kept in dollars and cents, the dollar being taken as equivalent to 4s. 2d.; but, with the exception of notes issued by the local banks, the currency consists mainly of British gold, silver, and bronze, with some foreign gold and local silver. The United States eagle has a legal value of \$10 or £2 1s., and so in proportion with the double, half, and quarter eagles. The British Guiana and West Indies fourpenny piece or groat was authorized and coined in 1891 on an urgent demand from the colony that the British fourpenny piece, which had gone out of circulation, should be replaced. This coin has a special utility in the colony as being the equivalent of the "bit" or quarter guilder, which used to be the favourite coin in British Guiana, and was the basis of the popular mode of reckoning.

British and foreign gold is held by the banks, but there is little in circulation. Notes are issued in denominations of \$5, \$10, and \$20, by the Colonial Bank and the Royal Bank of Canada. On December 31, 1916, there were in circulation notes issued by the former bank to the value of £114,531, and by the latter to the value of £88,977.

(3) *Banking*

The Colonial Bank and the Royal Bank of Canada have establishments in Georgetown, with branches at New Amsterdam. The latter bank is the successor of the British Guiana Bank, the assets of which it has purchased. An Ordinance of 1914-15, which provided a general banking law for the colony, preserved the right of the Government to issue notes, and regulated their issue by companies and corporations, the right of issuing being confined to existing banks authorised by the Ordinance and to such companies and corporations as may deposit security at par value for the amount issued.

On December 31, 1915, there were 50 post-office savings banks conducted by the Government. During the year 28,856 depositors invested £142,458, and withdrew £133,319, and at the close of the year the total amount to the credit of depositors was £214,525. East Indians owned £85,708 of the amount, Portuguese £18,619, and Chinese £3,340. Interest at $3\frac{1}{2}$ per cent. is allowed on deposits up to \$2,500.

With a view to the promotion of thrift and of united action among the agricultural population and the furtherance of agricultural prosperity, a Co-operative Credit Banks Ordinance was passed in 1914-15, providing for the granting of State aid to such banks and for their supervision by a central committee. So far as can be judged at present, the banks seem likely to prove a success.

“An encouraging start,” says the *Annual Report* for 1916, “has been made in establishing co-operative credit banks in the colony. On December 31, 1916, thirteen banks had been

registered, with a working capital of £2,035. The loans have been made on a basis of one dollar for every dollar subscribed by shareholders to the capital of the borrowing banks. The year's work has done much to familiarise the masses of the colony with the aims, objects, and utility of co-operative credit institutions, and it is pleasing to note that the banks are receiving the support of all classes in the districts in which they exist. Without exception all the banks have fulfilled their obligations in respect of the repayment of advances made to them, and in like manner the people who have obtained loans from them have met theirs with equal punctuality. Still more encouraging is the fact that the banks are in a position to set aside four per cent. of their income as the nucleus of a reserve fund. The outlook of their development is, therefore, decidedly encouraging."

NOTE.

The present condition and future prospects of British Guiana are further discussed in *Introduction to the Guiana Colonies*, No. 134 of this series, pp. 17-21.

APPENDIX

(A) EXTRACTS FROM TREATIES, ETC.

I.—CONVENTION BETWEEN GREAT BRITAIN AND THE NETHERLANDS

Signed at London, 13th August, 1814

ARTICLE I

His Britannic Majesty engages to restore to the Prince Sovereign of the United Netherlands, within the term that shall be hereafter fixed, the colonies, factories, and establishments which were possessed by Holland at the commencement of the late war, viz., on the 1st January, 1803, in the seas and on the Continents of America, Africa, and Asia, with the exception of the Cape of Good Hope and the Settlements of Demerara, Essequibo, and Berbice, of which possessions the High Contracting Parties reserve to themselves the right to dispose by a Supplementary Convention, hereafter to be negotiated according to their mutual interests; and especially with reference to Articles VI and IX of the Treaty of Peace signed between His Britannic Majesty and His Most Christian Majesty on the 30th May, 1814. . . .
Here follow other VIII Articles.

First Additional Article.

In order the better to provide for the defence and incorporation of the Belgic Provinces with Holland, and also to provide, in conformity to Article IX of the Treaty of Paris, a suitable compensation for the rights ceded by His Swedish Majesty under the said Article, which compensation it is understood, in the event of the above union, Holland should be liable to furnish in pursuance of the above stipulations; it is hereby agreed between the High Contracting Parties that His Britannic Majesty shall take upon himself and engage to defray the following charges:—

SECTION 1.—The payment of £1,000,000 sterling (24,000,000 francs) to Sweden, in satisfaction of the claims aforesaid, and in

pursuance of a covenant this day executed with His Swedish Majesty's Plenipotentiary, a copy of which Convention is attached to these additional Articles.

SECTION 2.—The advance of £2,000,000 sterling, to be applied in concert with the Prince Sovereign of the Netherlands, and in aid of an equal sum to be furnished by him towards augmenting and improving the defences of the Low Countries.

SECTION 3.—To bear equally with Holland such further charges as may be agreed upon between the High Contracting Parties and their Allies towards the final and satisfactory settlement of the Low Countries in union with Holland and under the dominion of the House of Orange, not exceeding in the whole the sum of £3,000,000, to be defrayed by Great Britain.

In consideration and in satisfaction of the above engagements as taken by His Britannic Majesty, the Prince Sovereign of the Netherlands agrees to cede in full sovereignty to His Britannic Majesty the Cape of Good Hope and the Settlements of Demerara, Essequibo, and Berbice, upon the condition, nevertheless, that the subjects of the said Sovereign Prince, being proprietors in the said colonies or settlements, shall be at liberty (under such regulations as may hereafter be agreed upon in a Supplementary Convention¹) to carry on trade between the said settlements and the territories in Europe of the said Sovereign Prince.

II.—TREATY BETWEEN GREAT BRITAIN AND VENEZUELA

Signed at Washington, 2nd February, 1897

ARTICLE I

An Arbitral Tribunal shall be immediately appointed to determine the boundary line between the Colony of British Guiana and the United States of Venezuela.

ARTICLE II

The Tribunal shall consist of five jurists: two on the part of Great Britain, nominated by the members of the Judicial Committee of Her Majesty's Privy Council . . . ; two on the part of Venezuela, nominated, one by the President of the United States of Venezuela . . . and one nominated by the Justices of the Supreme Court of the United States of America . . . ; and of a fifth jurist to be selected by the four persons so nominated; or in the event of their failure to agree within three months

¹ This convention was signed at London, August 12, 1815.

from the date of the exchange of ratifications of the present Treaty, to be selected by His Majesty the King of Sweden and Norway. The jurist so selected shall be President of the Tribunal. . . .

ARTICLE III

The Tribunal shall investigate and ascertain the extent of the territories belonging to, or that might lawfully be claimed by, the United Netherlands or by the Kingdom of Spain respectively at the time of the acquisition by Great Britain of the Colony of British Guiana, and shall determine the boundary line between the Colony of British Guiana and the United States of Venezuela.

ARTICLE V

The Arbitrators¹ shall meet at Paris within sixty days after the delivery of the printed arguments mentioned in Article VIII. . . . All questions considered by the Tribunal, including the final decision, shall be determined by a majority of all the Arbitrators. . . .

III.—TREATY BETWEEN GREAT BRITAIN AND BRAZIL

Signed at London, 6th November, 1901

His Majesty the King of the United Kingdom of Great Britain and Ireland, Emperor of India, and the President of the United States of Brazil, being desirous to provide for an amicable settlement of the question which has arisen between their respective Governments concerning the boundary between the Colony of British Guiana and the United States of Brazil, have resolved to submit to arbitration the question involved. . . .

ARTICLE I

His Majesty the King of the United Kingdom . . . and the President of the United States of Brazil agree to invite His Majesty the King of Italy to decide as Arbitrator the question as to the above-mentioned boundary.²

¹ The Arbitrators were Lord Russell of Killowen, Lord Chief Justice of England; Sir R. Henn Collins, a Justice of Her Britannic Majesty's Supreme Court of Judicature; the Hon. Melville Weston Fuller, Chief Justice of the United States of America; the Hon. David J. Brewer, a Justice of the Supreme Court of the United States of America; and His Excellency Frederic de Martens, Permanent Member of the Ministry of Foreign Affairs in Russia. The arbitral decision was unanimous.

² The decision of the King of Italy was given on June 15, 1904.

ARTICLE II

The territory in dispute between the Colony of British Guiana and the United States of Brazil shall be taken to be the territory lying between the Takutu and the Cotinga and a line drawn from the source of the Cotinga eastward, following the watershed to a point near Mount Ayuncanna; thence in a south-easterly direction, still following the general direction of the watershed as far as the hill called Annai; thence by the nearest tributary to the Rupununi, up that river to its source, and from that point crossing to the source of the Takutu.

ARTICLE III

The arbitrator shall be requested to investigate and ascertain the extent of the territory which, whether the whole or a part of the zone described in the preceding Article, may lawfully be claimed by either of the High Contracting Parties, and to determine the boundary line between the Colony of British Guiana and the United States of Brazil.

(B) STATISTICS
TABLE I.—GRANTS, LEASES, AND LICENCES.¹

Year.	No.	Grants, etc.	Wood-cutting Licences.	Remarks.
{ Annual Average 1886-1901	80	<i>Rhyndland Acres</i> 6,899·31	29	The <i>Rhyndland</i> acre=300 sq. rods, the <i>Rhyndland</i> rood being about 12 ft. 4 ins. In 1898 the acreage rose from about 5,000 to 15,437 through a reduction in the price of Crown lands under new Regulations. The large increase in 1901-2 was caused by the proprietors of estates securing the second depths of their plantations before the abolition of their exclusive rights in them under the Ordinance of 1900 and by the fact that opportunity was taken to amalgamate all grants, etc., in one title. The decrease in 1902-03 was due to the reduction from 100 acres to 25 acres of the maximum granted to one individual.
1901-2	184	57,600·10	21	The 1910-11 acreage includes leases for cattle grazing and wood-cutting, and the increase in the number of licences arose from the fact that licences, instead of mere permissions, were required under new Regulations.
1902-3	202	7,706·80	6	
1903-4	400	18,844·50	52	
1904-5	318	19,153·10	39	
1905-6	215	18,455·88	48	
1906-7	186	17,117·44	37	
1907-8	277	15,118·86	46	
1908-9	268	15,064·47	36	
1909-10	166	10,298·78	20	
1910-11	256	41,394·88	218	
1911-12	186	30,159·70	193	Under Ordinance No. 20 of 1914 English was substituted for <i>Rhyndland</i> measure. A reduction was made in 1914-15 in the area granted under a lease.
1912-13	310	13,424·67	239	
1913-14	383	12,072·21	260	
		<i>English Acres</i>		
1914-15	118	2,111·14	196	¹ <i>Blue Book</i> , 1916.
1915 Apr.-Dec.	59	2,963·49	208	
1916	550	50,512·09	128	

TABLE III.—AGRICULTURAL DISTRIBUTION, 1916.

	Canes.	Rice.	Coconuts.	Rubber.	Coffee.	Cacao.	Limes.	Plantains, ground provisions, etc.	Total.
	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Demerara—									
East Coast	19,468	2,058	1,110	51	29	33	..	972	23,721
Abary ..	..	15,279	4,283	..	2	1	14	802	20,381
West Coast	..	4,470	2,230	439	152	113	16	1,205	18,858
West Bank	..	580	787	469	2,023	450	14	3,155	13,800
East Bank	..	1,949	442	195	50	300	27	360	13,658
Mahaica	..	3,438	2,021	32	4	4	23	2,248	10,694
Upper Demerara River	..	1,224	419	1,134	271	863	4	2,037	5,952
Total	49,282	28,998	11,292	2,320	2,531	1,764	98	10,779	107,064
Essequibo—									
Essequibo River	..	4,072	1,530	1,108	6	27	358	411	9,820
North Essequibo Coast	..	2,541	1,984	100	20	3	3	296	7,625
South Essequibo Coast	..	1,925	502	37	42	102	116	287	5,210
Pomeroon	..	272	1,456	71	1,336	132	7	1,271	4,545
North-West District	..	31	85	594	639	16	..	1,350	2,715
Total	7,185	8,841	5,557	1,910	2,043	280	484	3,615	23,915
Berbice—									
Corentyne Coast	..	9,481	1,703	..	..	40	..	958	22,405
Canje River	..	5,597	776	563	10	..	325	2,237	13,091
Berbice River	..	6,388	230	41	15	37	104	641	7,914
West Coast	..	3,647	553	10	..	..	3	198	6,096
Total	21,879	19,183	3,262	614	25	77	432	4,094	49,506
Total for Colony	78,346	57,022	20,111	4,844	4,599	2,121	1,014	18,423	186,485

¹ Blue Book, 1916.

TABLE III¹.—IMPORTS, EXPORTS, AND TOTAL VOLUME OF TRADE.

—	1902-3	1903-4	1904-5	1905-6	1906-7
	£	£	£	£	£
Imports ..	1,444,084	1,656,024	1,537,591	1,662,205	1,690,804
Exports ..	1,829,743	1,810,038	1,991,048	1,994,394	1,843,107
<i>Total</i> ..	3,273,827	3,466,062	3,528,639	3,656,599	3,533,911

—	1907-8	1908-9	1909-10	1910-11	1911-12
	£	£	£	£	£
Imports ..	1,765,358	1,838,947	1,774,457	1,749,766	1,811,180
Exports ..	1,711,543	2,104,176	1,985,337	1,820,198	2,172,766
<i>Total</i> ..	3,476,901	3,943,123	3,759,794	3,569,964	3,983,946

—	1912-13	1913-14	1914-15	1915	1916
	£	£	£	£	£
Imports ..	1,703,355	1,694,155	1,766,094	1,968,214	2,471,944
Exports ..	1,798,597	2,193,120	2,623,064	3,336,338	3,758,066
<i>Total</i> ..	3,501,952	3,887,275	4,389,158	5,304,552	6,230,010

Annual Averages.

—	1902-6.	1907-11.	1912-16.	1902-16
	£	£	£	£
Imports ..	1,598,142	1,787,942	1,920,752	1,768,945
Exports ..	1,893,666	1,958,804	2,741,837	2,198,102
<i>Total</i> ..	3,491,808	3,746,746	4,662,589	3,967,047

¹ Compiled from the *Administration Reports* and 1916 *Blue Book*.

TABLE IV¹.—PRINCIPAL ARTICLES OF EXPORT.

			Exports.				
			Annual Average 1902-6.	Annual Average 1907-11.	Annual Average 1912-16.	Mean.	Percentage of Total Exports.
Sugar	..	{ tons	119,579	104,961	98,049	107,529	
		{ £	1,173,076	1,177,615	1,571,270	1,307,320	59·93
Gold	..	{ ozs.	93,671	61,948	56,386	70,668	
		{ £	344,747	225,605	205,517	258,625	11·77
Rum	{	proof gallons	3,554,669	2,854,115	3,643,992	3,350,925	
		{ £	107,069	128,587	333,641	189,766	8·63
Balata	..	{ lb.	551,728	1,080,549	1,191,900	941,392	
		{ £	42,896	111,477	138,169	97,514	4·44
Rice	..	{ lb.	92,948	8,546,880	17,748,033	8,795,953	
		{ £	3,849	49,065	119,771	57,562	2·17
Timber	..	.. £	27,443	27,974	32,683	29,500	1·34
Molascuit	..	{ tons	7,222	8,488	3,527	6,412	
		{ £	26,168	20,301	13,298	19,932	·91
Diamonds	..	{ carats	8,096	4,601	9,279	7,325	
		{ £	13,470	7,766	16,536	12,591	·58
Charcoal	..	.. £	7,716	8,361	7,326	7,801	·37
Molasses	..	{ gallons	336,093	176,228	75,589	195,970	
		{ £	11,189	7,898	3,395	7,494	·34
Cattle	..	.. £	4,945	6,301	5,704	5,650	·26
Flour	..	{ barrels	8,097	3,001	2,094	4,397	
		{ £	7,118	2,911	4,048	3,692	·17
Coconuts	..	{ No.	153,290	728,451	1,505,941	795,894	
		{ £	455	2,604	5,088	2,715	·13
Hides and Leather	..	.. £	2,030	2,342	2,917	2,429	·11
Coffee	..	{ cwts.	—	710	2,047	919	
		{ £	—	1,610	5,089	2,233	·10
Cacao	..	{ cwts.	731	637	459	609	
		{ £	2,261	2,034	1,203	1,833	·08
Copra and Oil	..	.. £	—	439	3,562	1,333	·06
Isinglass	..	{ lb.	15,039	16,967	15,142	15,716	
		{ £	1,092	1,165	1,114	1,124	·05
Rubber	..	{ lb.	1,525	4,725	8,621	4,957	
		{ £	201	633	523	452	·02
Citrate of Lime	..	.. £	—	87	669	252	·01
Other Exports	..	.. £	117,941	174,029	270,314	187,428	8·53
<i>Total Exports</i> .. £			1,893,666	1,958,804	2,741,837	2,198,102	100·00

¹ This Table is compiled from the *Administration Reports, 1916 Blue Book and Statistical Abstract.*

TABLE V'.—PRINCIPAL ARTICLES OF IMPORT.

		Imports.				
		Annual Average 1902-6.	Annual Average 1907-11.	Annual Average 1912-16.	Mean.	Percentage of Total Imports.
Cotton, Linen, and Woollen Manufactures	.. £	169,817	191,829	188,137	183,261	10·36
Flour	.. { barrels	185,702	180,798	175,885	180,795	10·32
	£	166,754	191,519	189,758	182,677	
Manures	.. £	133,939	152,237	148,072	144,749	8·17
Machinery	.. £	84,443	76,380	77,780	79,534	4·50
Meat	.. { barrels	20,490	17,517	15,139	17,715	3·38
	£	62,381	62,185	54,827	59,798	
Oils	.. { gallons	660,266	816,280	1,008,666	823,408	3·00
	£	38,820	54,457	66,081	53,119	
Fish	.. { cwt.	51,402	43,819	42,155	45,459	2·85
	£	53,910	47,232	50,196	50,446	
Bullion and Specie	.. £	28,317	55,904	65,603	49,941	2·83
Haberdashery	.. £	34,321	56,655	29,315	40,097	2·26
Coal, Coke, etc.	.. { tons	30,290	32,962	31,669	31,640	1·95
	£	29,006	33,453	41,005	34,448	
Lumber	.. { feet	5,326,638	3,924,314	3,651,716	4,300,889	1·61
	£	31,565	29,775	24,276	28,535	
Tobacco	.. £	22,007	28,024	30,972	27,001	1·52
Rice	.. { lb.	15,958,488	965,963	34,091	5,652,847	1·47
	£	71,513	3,970	320	25,934	
Hardware	.. £	22,705	33,402	21,172	25,760	1·46
Beer	.. £	20,254	27,753	27,798	25,318	1·43
Butter	.. { lb.	478,635	494,998	497,039	490,224	1·34
	£	20,486	23,906	26,913	23,764	
Boots	.. £	21,203	22,025	26,402	23,210	1·31
Grain	.. £	15,056	22,577	24,301	20,645	1·16
Spirits	.. { gallons	20,184	25,217	22,044	22,482	·75
	£	11,556	15,043	13,036	13,212	
Opium	.. { lb.	2,566	1,482	4,781	2,943	·13
	£	1,856	1,314	3,821	2,330	
Other Imports	.. £	558,235	658,304	810,819	675,786	38·20
Total Imports	.. £	1,598,142	1,787,942	1,920,752	1,768,945	100·00

¹ This Table is compiled from the *Administration Reports*, 1916 *Blue Book*, and *Statistical Abstract*.

TABLE VI:—TRADE^a WITH THE PRINCIPAL COUNTRIES.

	EXPORTS.				IMPORTS.				TOTAL TRADE.	
	Annual Average, 1902-5.	Annual Average, 1907-11.	Annual Average, 1912-16.	Mean.	Per-centage.	Annual Average, 1902-5.	Annual Average, 1907-11.	Annual Average, 1912-16.	Mean.	Per-centage.
United Kingdom	£ 772,911	£ 771,351	£ 1,154,001	£ 899,421	42.79	£ 833,086	£ 880,203	£ 894,463	£ 869,251	52.09
British Possessions—										
Canada	478,899*	747,731	947,529	724,720	34.49	104,507*	132,039*	210,083	148,876	8.92
British West Indies	23,787	70,020	136,375	75,738	3.65	30,978	29,593	43,486	34,686	2.08
British East Indies	7	75	75	28	—	42,136	53,161	70,011	55,103	3.30
Other British possessions	2,108	3,439	4,173	3,240	.15	318	1,245	822	795	.05
Foreign countries—										
United States	496,599	215,743	144,839	285,727	13.60	464,479	476,341	457,731	466,187	27.94
France	806	754	128,258	43,273	2.05	9,129	22,203	16,388	15,906	.95
French Guiana	13,892	9,629	15,600	12,964	.62	626	2,219	8,915	9,179	.45
Holland	6,840	8,845	6,401	7,235	.35	20,183	4,997	23,239	28,808	1.73
Dutch Guiana	18,262	33,700	47,179	33,057	1.57	1,314	1,822	6,460	3,198	.19
Dutch West Indies	2,208	1,870	947	1,674	.08	277	654	94	341	.02
Germany	883*	11,007	1,345	4,405	.21	1,543*	12,998	6,845	7,130	.43
Portuguese possessions	3,612	1,264	18	1,631	.08	10,407	11,568	4,650	8,875	.53
Venezuela	1,276*	128	782	729	.03	14,067*	2,754	7,307	8,042	.48
Other foreign countries	7,540*	7,318	6,023	6,960	.23	445*	30,712	21,932	17,698	1.06
Total	1,829,028	1,882,799	2,593,549	2,101,792	100.00	1,533,503	1,700,509	1,772,414	1,668,809	100.00
Total, United Kingdom	772,911	771,351	1,154,001	899,421	42.79	833,086	880,203	894,463	869,251	52.09
British possessions	504,801	821,190	1,088,156	804,716	38.29	177,939	216,038	324,402	293,460	14.35
Foreign countries	551,316	290,258	351,392	397,655	18.92	522,478	604,268	553,549	569,098	33.56
Total	1,829,028	1,882,799	2,593,549	2,101,792	100.00	1,533,503	1,700,509	1,772,414	1,668,809	100.00

1 This Table is compiled from the *Statistical Abstract*, *Administration Reports*, and *1916 Blue Book*.

2 Excluding Trans-shipment Trade.

* These figures are approximate.

TABLE VII¹.—EXPORT TRADE WITH THE UNITED KINGDOM, CANADA, AND THE UNITED STATES.

—	1906-7	1915	Annual Average 1906/7-10/11	Annual Average 1911-15
UNITED KINGDOM.				
	£	£	£	£
Sugar and Molasses ..	247,163	526,223	264,928	401,302
Rum	98,884	486,387	108,559	209,294
Bullion	275,535	178,433	240,938	213,350
Balata	39,320	141,060	82,178	117,019
Diamonds	5,898	10,702	6,339	13,166
Cattle Foods	39,520	10,397	25,668	14,391
Timber and Lumber ..	10,061	9,251	12,865	14,551
Other Exports	85,783	15,967	47,629	44,332
Total Exports. ..	802,164	1,328,420	789,104	1,027,405
CANADA.				
Sugar and Molasses ..	467,181	1,129,159	658,928	808,537
Rum	3,227	11,175	6,041	9,700
Other Exports	4,354	757	2,786	2,326
Total Exports ...	474,762	1,141,091	667,755	820,563
UNITED STATES.				
Sugar and Molasses ..	351,115	37,835	190,169	119,430
Balata	16,785	18,542	18,601	17,705
Other Exports	46,937	22,930	17,497	14,800
Total Exports ..	414,837	79,307	226,267	151,935

¹ This Table is founded upon the *Administration Reports*.

TABLE VIII.¹—IMPORT TRADE WITH THE UNITED KINGDOM,
CANADA, AND THE UNITED STATES.

	1906-7	1915	Annual Average 1906/7-10/11	Annual Average 1911-15
UNITED KINGDOM.				
	£	£	£	£
Linen, Cotton, etc. Goods	160,680	169,089	151,085	170,707
Manures	138,489	151,122	138,349	124,735
Haberdashery	44,861	22,596	44,881	31,116
Tobacco	11,148	20,634	13,437	17,261
Soap	16,029	19,891	14,306	18,894
Beer, etc.	22,438	19,027	24,275	25,660
Hardware	19,863	14,666	15,799	17,507
Coal and Coke	29,628	14,648	27,706	21,552
Fish	4,813	11,884	5,993	28,032
Other Imports	473,735	439,387	461,951	426,470
Total Imports ..	921,684	882,944	897,782	881,934
CANADA.				
Flour and Grain.. .	28,520	178,781	50,589	104,990
Fish	51,484	38,593	50,091	25,221
Vegetables	14,622	16,780	15,518	11,798
Wood, Timber, etc. ..	4,507	17,314	5,852	11,366
Cheese	848	4,799	1,172	2,375
Other Imports	14,026	20,620	8,475	14,043
Total Imports ..	114,007	276,887	131,687	169,793
UNITED STATES.				
Flour and Grain.. .	160,305	46,579	167,535	96,571
Meat	66,223	61,306	70,095	66,907
Oil	36,594	45,645	39,314	43,086
Wood, Timber, etc. ..	23,319	67,849	38,018	39,028
Linen, Cotton, etc. Goods	25,070	38,291	17,597	18,667
Coal and Coke	4,484	25,020	21,978	15,508
Tobacco	10,242	9,358	11,502	11,085
Other Imports	153,040	164,611	118,366	127,395
Total Imports ..	479,277	458,639	484,405	418,247

¹ This Table is founded upon the *Administration Reports*.

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Note.—The appendices to the British Cases in the British Guiana-Venezuelan Boundary Arbitration, 1897-99, and in the British Guiana-Brazilian Boundary Arbitration, 1901-04, containing extracts from the Dutch, Spanish, Portuguese, and British archives and libraries covering four centuries, are of the highest value, and form an almost unique collection of authorities—historical, diplomatic, geographical, and commercial. The historical cases, together with the special historical notes and arguments based upon the documentary authorities, form a permanent contribution to the history of Guiana.

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I. GEOGRAPHY PHYSICAL AND POLITICAL

(1) POSITION AND FRONTIERS

DUTCH Guiana, or Surinam, is situated on the north-east coast of South America, between British Guiana on the west and French Guiana on the east, facing the Atlantic Ocean on the north. It lies between $1^{\circ} 55'$ and $6^{\circ} 5'$ north latitude, and between 54° and $57^{\circ} 45'$ west longitude, and occupies an area of 46,060 square miles.

The River Corentyne, on the west, forms the boundary between Dutch and British Guiana for the whole of its course of about 250 miles. On the east the Marowynne River, with its tributary the Awa (called the Itany in its upper reaches), forms the boundary between French and Dutch Guiana, while the Tumuc Humac range on the south forms the natural division between Dutch Guiana and Brazil.

(2) SURFACE, COAST, AND RIVER SYSTEM

Surface

The configuration of Dutch Guiana is similar in its general outlines to that of British and French Guiana. Geographically the three Guianas constitute a region distinct from the rest of the mainland, consisting of an isolated mass of granites and other similar rocks. With the exception of the Tumuc Humac on the southern boundary of the colony, there are no continuous mountain chains.

The country is divided into four clearly-marked natural regions:—

(i) A strip of alluvial land, stretching along the coast for about 3 miles inland, which lies partly below

sea-level, and is protected by natural palisades of courida and mangrove. This region is inhabited and cultivated, and shows a tendency to increase in area, owing to the deposits of alluvial and other matter brought down by the numerous rivers. Near the coast are isolated masses of gneiss, schists, or sandstone, ranging in height from 300 ft. to 720 ft. Formerly washed by the sea, they are now surrounded by alluvial matter brought down by the rivers and deposited in coastal waters. This forms the fringe of the great forest region which extends over the larger part of the country.

(ii) The forest region, much of which is impassable and has never been fully explored. As the land rises and becomes more hilly the rivers which intersect the forests are obstructed by rocks. In the river bottoms and swamps the soil is rich and the vegetation dense and varied, but it becomes much thinner on the higher slopes.

(iii) The sandstone region is intersected by streams of all sizes, and possesses an abundance of springs. The trees are not so tall as those of the true forest, and there are open spaces with grass and flowering plants.

(iv) The savannahs of the interior present a series of transitions from wooded to grassy country, and their undulating surface is broken by isolated granite rocks, blocks of conglomerate, and reddish masses of quartz and clay. In most of the savannahs trees are few, and the vegetation is chiefly confined to the lower levels.

Coast

The coast-line extends approximately east and west for about 240 miles in gentle curves, which continually change in shape and direction. A characteristic feature is the distinct double shore line, due to the new beaches which are formed by the alluvial deposits from the rivers. Sandbanks frequently extend far out to sea.

The principal harbour is that of Paramaribo (the capital). Other coast towns are New Nickerie,

Coronie, and Albina, which are only connected with each other, and with Paramaribo, by sea.

River System

The five chief rivers, all of which flow from south to north, are the Corentyne, Coppename, Saramacca, Surinam, and Marowyne or Maroni.

The *Corentyne* (*Corantijne*), which has a length of 450 miles, rises in the Curucuri Mountains, and is formed by the junction of the Curuni and New rivers. Below this confluence, the Corentyne descends to the northern plains through a series of magnificent falls and rapids, the chief of which are the Cataracts of Wonotobo. From this point, 175 miles from the sea, the Corentyne runs its course without interruption. Close to its mouth the Corentyne is joined by the coastal stream of the Nickerie, which has an east-to-west course through alluvial plains.

The *Coppename* in its upper reaches flows northwards, but after its junction with a transverse coast stream continues its course to the sea eastwards. Between it and the Nickerie winds a channel, whose sluggish current sets alternately west or east according to the volume of water descending from the interior. A labyrinth of natural canals has thus been formed, and these have been embanked and improved so as to serve as highways. The *Saramacca* lies to the east of the Coppename, and falls into the same estuary. The *Surinam* flows in a generally northerly direction, reaching the sea a short distance from Paramaribo. At Fort Amsterdam, just below Paramaribo, it is joined by the Commewyne (*Commewijne*), here almost equal to the Surinam in size and volume. Farther to the east, the Commewyne is joined by the Cottica, and the Cottica by the Coermoribo.

The head-waters of the *Marowyne* (*Marowijne*, *Maroni*), which has a total length of 390 miles, cover a stretch of nearly 200 miles on the northern slopes of the

Tumuc Humac Mountains between the basins of the Corentyne and the Oyapok. Its upper course is formed by the junction of the Awa (Lawa or Itany) and the Tapanahoni, and in its further descent it is uninterrupted by cataracts of any size. At its mouth there is a bar which has a depth of 15 or 16 ft., even at low water.

It will therefore be seen that along the whole of the sea-board of Dutch Guiana there exists an intricate and continuous system of waterways, stretching from the Corentyne on the western boundary, through the Nickerie, the Coppename, the Sommelsdijk Canal, the Commewyne, the Cottica, the Coermoribo, and the Wana, as far as the Marowyne River, on the east.

All the rivers of Dutch Guiana rise enormously in the rainy season.

(3) CLIMATE

The controlling factors of the Guiana climate are its situation within the tropical zone close to the Equator, the steadiness and frequency of the winds, and the influence of the sea. The north-east trade winds blow for the greater part of the year, beginning in December, and the south-east trades for a shorter period, thus ensuring a remarkable uniformity of climate.

Over the whole region the temperature rarely rises above 80° F. in the shade or falls below 74° F. at night. It is slightly lower in the rainy season, but the mean average temperature for the year is about 80° to 81° F. The atmosphere is nearly always moist. On the Tumuc Humac Mountains the atmosphere is drier than in other parts of the colony, and at night the temperature has been known to fall to 16° F.

The rainfall varies from 60 to 80 in. inland, but on the coast the mean exceeds 100 in., and 160 in. have been recorded. There are two unequal rainy seasons. In the interior, the wettest period is from January to July, at Paramaribo from December to the end of

January, and again from March to July, but no single month can be described as really dry.

(4) SANITARY CONDITIONS

Owing to the general ignorance of ordinary sanitary precautions, and also on account of the uncertain supply of reliable drinking water, the state of public health in Dutch Guiana is far from satisfactory.

The chief diseases are leprosy, tuberculosis, ankylostomiasis, filaria, elephantiasis, and tropical fevers, and diseases of the eye are especially prevalent in the dry season. Yellow fever is not endemic, but is occasionally introduced from abroad; and dysentery exists, although it is less prevalent than in many tropical countries.

Other and less frequent diseases are ringworm, tetanus, blackwater fever, and *lota*, a skin disease which is probably of parasitic origin.

(5) RACE AND LANGUAGE

Race

The population of Dutch Guiana consists of native Indians, European and Jewish settlers, negroes, Asiatics, African and European half-breeds, and a small but not negligible sprinkling of fugitives from the penal settlement of French Guiana.

The Ojanas, Upuruis, and Trios are the principal Indian tribes, but they are of little importance, either as regards numbers or economic capacity. The small handful of Europeans represents partly the descendants of the early settlers and partly the trade element.

The Jews in Surinam are neither numerous nor prosperous, but they supply some of the professional men, such as doctors, lawyers, and judges. The Jews are of two distinct types: (1) the Dutch-Portuguese community, said to be the oldest permanent Jewish

settlement on American soil; (2) the purely Dutch community, which is decreasing in numbers.

Negroes were imported from Africa at an early date, to the number of about 300,000, till the abolition of slavery. Since this time the Guiana plantations have all suffered severely from want of labour. The negroes of Surinam are of two classes: first, those descended from the slaves who escaped into the forests when the colony was handed over by the English to the Dutch in 1667. These (about 8,000 in number) are known as Bush negroes (*Boschnegers*), and trade peacefully with the white settlers, but are on bad terms with the native Indians. Secondly, there are those slaves, or their descendants, who continued after the emancipation (in 1863) to live as free men in the towns and plantations.

The East Indians are imported under a five years' contract, by the end of which time they are acclimatised, and have a much higher productive value than on their arrival. The Javanese number nearly 10,000, and are by some authorities preferred to the British Indians; they generally renew their contracts.

The Chinese are not numerous in Surinam, and are not likely to prove an important element in the future. The mixed races are of all shades between black and white. Bovianders, originating from Dutch fathers and Indian mothers, form a few communities in the west of the colony.

Language

Dutch is the official language of Surinam, but nearly everyone, white or coloured, understands and speaks English. The negro English is a curious mixture of English, African, Dutch, and Portuguese words, and in 1886 it was estimated that 40,000 people used this medium of communication.

(6) POPULATION

Distribution

In 1917 the population was estimated at 91,629, exclusive of Bush negroes and native Indians, whose numbers can only be roughly estimated. The population is very unevenly distributed, more than one-third being in Paramaribo. The inhabitants live mainly on a narrow strip of sea-board, some 220 miles in length, with a depth of not over 10 miles, and generally much less.

Towns

Paramaribo is the only large town in Dutch Guiana; its population is 37,085. Other towns are New Nickerie and Albina, the former on the south bank of the Nickerie River, a few miles above its confluence with the Corentyne, the latter on the Marowynne River, on the eastern boundary of the colony.

Movement

There has been an increase in population since 1880, partly owing to a higher birth-rate. From 1850 to 1884 there were nearly 300 per annum more deaths than births, whereas from 1885 to 1914 there was an average surplus of births amounting to 440 a year, and in 1915 there were about 1,400 (nearly double) more births than deaths. The average death-rate is about 22 per 1,000, taking the whole population together without distinction of race. There is a strong presumption in favour of the fact that the negroes have decreased in numbers since the emancipation.

There is practically no emigration, except for the drift of native tribes across the frontiers, and the repatriation of some of the coolies, which amounts to only a few hundred a year. By a charter of 1682 the West India Company was obliged to import annually as many slaves from Africa as the colony required, but

this came to an end when, in 1807, Great Britain abolished the slave trade in this part of the world. From 1853 to 1869 several hundreds of Chinese were imported annually, but Chinese immigration has now entirely stopped.

The Javanese have been coming over since 1891. British Indians were first regularly contracted for in 1893, and since that date 17,000 have arrived, of whom about 6,000 have become permanent settlers. Early in 1916 the Indian Government prohibited this emigration, but a transition period of five years is allowed, so that colonies supplied by British Indian labour may find substitutes elsewhere.

II. POLITICAL HISTORY

CHRONOLOGICAL SUMMARY

- 1674 Withdrawal of English settlers.
- 1682 Society of Surinam formed.
- 1688 Sommelsdijk becomes Governor.
- 1688 Death of Sommelsdijk.
- 1689 Du Casse attacks the colony.
- 1712 De Cassard attacks the colony.
- 1772 Bush negroes pacified after a prolonged struggle.
- 1780 War between Great Britain and Holland.
- 1791 Suppression of West India Company and Society of Surinam.
- 1799 An English force seizes Surinam.
- 1802 Surinam restored to the Dutch.
- 1803 Surinam retaken by the British.
- 1815 Surinam again restored to the Dutch.
- 1821, 1832 Conflagrations at Paramaribo.
- 1851 Epidemic of yellow fever.
- 1863 Emancipation of slaves. House of Assembly created.
- 1870 Convention between Great Britain and Holland arranging for use of Indian coolie labour.
- 1884 Creation of Royal West India Mail Company.
- 1915 Line of demarcation made between Dutch and French Guiana.

(1) 1674-1799

THE result of the two Anglo-Dutch wars of 1665-67 and 1672-74 was to leave Surinam absolutely ruined by the final withdrawal in 1674 of the English settlers with their slaves and property. As the colony had been conquered by a squadron from Zeeland in 1667, under the command of a Zeelander, Admiral Crynssen, it passed after the peace into the possession of the States of Zeeland. Its chief hope lay in the presence of a number of Jewish settlers. The final expulsion of the Dutch from Brazil in 1654 had led to a great number of the Jews flying from Pernambuco and seeking refuge in

the West Indies. A settlement under David Nassy was made in Cayenne in 1659; and a considerable part of the colonists who in 1658 went out to the Pomeroon were likewise Brazilian refugees. Driven out by the French from Cayenne in 1664, the Nassy colonists, under a special grant¹ obtained by Lord Willoughby, the patron of Surinam, were allowed to migrate to that colony; and they settled high up the river in what was known in 1665 as the Jewish Savannah. In the same year an English military expedition captured and destroyed the Pomeroon colony; and many of the Pomeroon Jews, after Surinam had been taken by Admiral Crynssen, made their way thither, so that in 1674 there was in the colony an important body of Jewish settlers, mostly of Portuguese or Spanish origin.

The States of Zeeland, in taking over the administration, endeavoured to make their newly acquired colonial possession a profitable venture; but they found that the outlay needed for repairing the devastations of war was beyond their means. In 1682 they succeeded in persuading the directors of the West India Company to purchase their rights for 260,000 florins; and the States-General gave their sanction by granting a charter to the Company. Scarcely, however, had the colony passed into their hands when the directors in their turn perceived that the cost of making it a profitable concern was out of the power of a company which was already involved in heavy debt. The Council of Ten thereupon resolved to re-sell two-thirds of their property—one-third to the city of Amsterdam and one-third to Cornelis van Aerssen, lord of Sommelsdijk, and his heirs. The three proprietors, with the sanction of the States-General, were formed into a company under the name of the Society of Surinam, governed by a board of directors. The sovereignty remained with the State.

Sommelsdijk was the son of Francis van Aerssen, the trusted friend and counsellor of the Stadholders.

¹ This grant was the first of its kind made by an English Government to the Jews. Its date is Aug. 17, 1665.

Maurice and Frederick Henry of Orange, and was a man not only of high position and distinction but of great administrative ability. By his own wish he went out as Governor of Surinam (September 1683); and during the five years of his energetic rule he achieved results which entitle him to be regarded as the real founder of the colony. His methods were autocratic and high-handed; but his energy was prodigious, and he succeeded in bringing a bankrupt and unruly settlement into a condition of orderly progress.

His first task was to gain the goodwill of the native Indian tribes. After repelling their attacks, he succeeded, by the offer of conciliatory and liberal terms, in converting these Carib and Arawak foes into close friends and allies. He protected the Nassy settlement at the Jewish Savannah, which became one of the most prosperous in the colony. He erected a Court of Justice, before which offenders of every kind were brought and sternly punished. When he arrived at Paramaribo he found the garrison idle, undisciplined, and marauding. He employed them in hard and useful work, in digging the Sommelsdijk Canal between the Rivers Surinam and Saramacca, and in building forts. When he landed there were but fifty plantations in the colony, many half ruined. At his death there were more than 200, which stretched some sixty miles inland. Among other things, the cultivation of the cacao plant was introduced by him. He was killed (1688) by mutinous soldiers, who were subsequently reduced to order.

Sommelsdijk's son, Francis, lord of Châtillon, declined the post of Governor; but he accompanied in a private capacity the new Governor, Scharphuijsen, and was of much assistance to him in furthering the welfare of the colony on the lines laid down by his father. He was still in Surinam in 1689, when the French corsair Du Casse attacked the colony. Châtillon drove off the invaders, who afterwards made themselves masters of Berbice. One of the reasons for this attack may have been that about this time numbers of French

Huguenots, driven out of their country by the revocation of the Edict of Nantes, sought refuge in Surinam, where they founded a settlement.

An attack in 1712 by another French privateer force, under the notorious Jacques de Cassard, was more successful. The French landed troops, pillaged the plantations, and extorted a heavy ransom. For some years before this there had been a constant leakage among the slaves, who escaped from the plantations and took refuge in the forests. The French invasion enabled numbers of other fugitives to join these Bush negroes (*boschnegers, marrons*), who now became a danger to the safety of the higher plantations. For some sixty years the history of the colony mainly consists of expeditions sent against them. Most of these expeditions were failures; and, though in the end the Bush negroes were pacified, they were never subdued, and practically obtained their full liberty.

In spite of these drawbacks, the colony made continual progress. Sugar and cacao were far from being the only source of profit to the planters. In 1706 cotton and tobacco, in 1708 indigo, in 1720 coffee, began to be cultivated; and the exports of these commodities became from year to year more important. The number of vessels that sailed from Paramaribo for the mother-country in 1775 was sixty-four, and they carried 15,200,000 lb. of sugar, 18,000 lb. of coffee, 600,000 lb. of cacao, and 160,000 lb. of cotton, besides other goods, the value being reckoned at 1,416,250 florins.

The Government of Surinam during this period was similar to that of the other Dutch Guiana colonies. The Governor was appointed by the Society with the approval of the States-General, and he took an oath faithfully to carry out the terms of the charter. There was the usual Court of Policy and Criminal Jurisdiction, consisting of the Governor, the Commander of the troops, the Secretary, the Fiscal, and ten Councillors, and a Court of Civil Justice, presided over by the Governor, with six Councillors. The Governor chose

the Councillors out of a double number elected by the settlers. The Sommelsdijk family in 1770 sold their share in the Society of Surinam to the town of Amsterdam, which thus became possessed of a two-thirds interest in the colony.

When war broke out between Great Britain and Holland in 1780, and Essequibo, Demerara, and Berbice were captured by the British Fleet, to be shortly afterwards retaken by the French, Surinam escaped a like fate, its fortifications having proved a sufficient defence against a *coup de main*. In 1791 the West India Company and the Society of Surinam were both suppressed by the Grand Pensionary, Van den Spiegel, and all the Guiana colonies were placed under the control of a Colonial Council, with the privilege of free trade. The conquest of Holland by the French and the creation of the Batavian Republic in 1795 led to war with Great Britain. In 1796 a British force, acting in the name of the Stadholder, William V, then a refugee in England, took possession of the Guiana colonies, Demerara, Essequibo, and Berbice, and in 1799 of Surinam.

(2) 1799-1914

The conditions of the surrender of Surinam were the same as those granted in 1796 to the colonies of Demerara, Essequibo, and Berbice. At the Peace of Amiens Surinam was restored to the Dutch, only to be retaken by the British in 1803, when war again broke out between Great Britain and France. In 1815 Surinam once more passed into Dutch hands. Before the French conquest of Holland in 1795 Surinam was the most flourishing of all the Dutch Guiana colonies; and during the period of British occupation no attempt was made to interfere with its administration or industries. But here, as in Demerara and Berbice, the abolition of the slave traffic stopped the importation of fresh slaves from Africa; and the colony suffered from shortage of labour, and at the same time from lack of capital.

Surinam was cut off from intercourse with the motherland and with Europe; and British enterprise and capital flowed to Demerara and avoided Surinam.

At the beginning of the nineteenth century the value of the exports from Surinam amounted to about two millions sterling, and was equal to that of the Three Rivers, Demerara, Essequibo, and Berbice; but after 1815 a period of decadence set in. The interest of the Dutch was centred upon the East Indies rather than upon the West, upon Java to the neglect of Surinam; and for a succession of years the revolt and separation of Belgium diverted all the energies of the Dutch Government and people. Holland, in 1844, was financially exhausted, and had no funds to spare for the development of her West Indian possessions, and the revenue of Surinam has never up to the present time sufficed for her needs without a large subsidy from the home Government. To add to the troubles arising from these causes—lack of labour and lack of capital—two terrible conflagrations devastated Paramaribo in 1821 and 1832, and in 1851 a fatal epidemic of yellow fever. At this time large numbers of the plantations were being given up, and financially and commercially the fortunes of Surinam sank to their lowest point. A slow, but gradual, revival was to follow, but never real prosperity. The long-delayed emancipation of the slaves took place in 1863, the slaves having, as in the British colony, to serve an “apprenticeship,” but in this case one of ten years, before absolute freedom was conceded. It is a remarkable fact that in spite of this, neither before the act of emancipation, nor during the long period of “apprenticeship,” nor after the full grant of liberty, were there any riots or disturbances of any kind. This speaks well for the good relations which must have subsisted between the blacks and their masters. It is the more remarkable as Surinam had been the scene of a servile war lasting for sixty years.

The discovery in 1887 of auriferous deposits in the

borderland between Dutch and French Guiana¹ led to an amicable settlement of the boundary question between the two Powers in the Upper Marowynne district.

One of the features of Surinam is the thoroughly Dutch character of the colony. The Dutch as colonists carry with them, perhaps more than any other people, their distinctive racial characteristics. In British Guiana the Dutch origin of the Demerara-Essequibo-Berbice colony is still strongly marked. In Surinam the visitor to Paramaribo or New Nickerie might imagine himself on the banks of the Waal, the Lek, or the Yssel; and the farms in the neighbourhood of the capital are veritable Hollander *boerderijen*. Even the negro-creoles have assimilated much of the habits and mode of living of their former masters. There is an Old-Holland atmosphere, in fact, pervading Surinam. The creation of the Royal West India Mail Service in 1884, and of the Suriname Studie-Syndicaat² in 1916, points to an increasing interest on the part of the mother-country in the fortunes of the Guiana colony towards the end of the last century.

¹ Between the Rivers Tapanahoni and Awa.

² See *infra*, Appendix (B), p. 69.

III. SOCIAL AND POLITICAL CONDITIONS

(1) RELIGIOUS

THE Dutch Government upholds entire religious liberty in its colonies. The numbers of those professing the Christian faith are :

Moravians	...	...	...	26,000
Roman Catholics	...	...	...	19,000
Dutch Reformed	...	...	...	7,000
Lutherans	...	...	...	3,000
Episcopalians	...	...	...	900
Baptists	...	...	...	50

Other faiths are represented by :

Mohammedans	...	...	...	11,000
Hindoos	...	...	...	17,000
Jews	...	...	...	900

One of the most noteworthy features of the religious history of Surinam has been the astonishing success of the missions of the Moravian Brethren or *Herrnhuters*. The efforts of the Moravian missionaries began so early as 1735, but at first without success. Not till 1776 was the first negro baptised. This was the beginning of a remarkable movement; for in 1863, the year of the emancipation, three-fourths of the negro workers had adopted the Moravian faith.

(2) POLITICAL

All the Dutch West Indian possessions had a common Governor until 1846. He resided at Paramaribo. Until 1863 the form of government was autocratic in the sense that the colonists had no voice in it. The Governor, appointed directly by the Crown,

possessed very extensive powers. All subordinate posts in the colony were in his gift, and the entire administration centred in his person. He was assisted by a Council, which only met for consultation when summoned by him, and over which he presided. Three of the nine members of this Council—the Procureur-General, the Fiscal, and the Secretary—sat *ex officio*. The other six were nominated by the Governor from among the principal planters of the colony. The only checks upon the Governor's authority were the political and magisterial powers vested in the Procureur-General, himself a Crown official, and the control of the Fiscal over financial proposals. In 1863 a House of Assembly (*Coloniale Staten*) was created. In this Assembly the Governor presided and nominated four members; nine others were elected by voters who paid 40 florins annually in taxes; and they sat for six years. But the Assembly had no initiative or any real financial control, its powers being limited to debate upon the measures submitted to its consideration by the Governor. This system has remained practically unchanged to the present day. Surinam is now divided into sixteen districts, over which Commissaries nominated by the Governor exercise considerable administrative powers.

The Roman-Dutch law is the legal code of the colony. The Supreme Court of Justice, whose members are nominated by the Crown, has its seat at Paramaribo. There are, besides, three cantonal Courts and two circuit Courts.

(3) EDUCATIONAL

Public education is partly provided by Government schools; partly by sectarian schools, with a certain amount of Government subsidy. Considerable progress has been made in recent years.

There are now twenty-nine schools at Paramaribo,

and thirty-nine in other districts. The Paramaribo schools are thus distributed :—

• Government	...	...	...	...	7
Moravian	...	...	...	...	7
Roman Catholic	...	...	...	...	8
Free Evangelical	...	...	...	...	1
African Methodist Episcopal	...	...	...	...	1
• Private	...	...	...	...	5

The district schools thus:—

Government	...	...	...	...	21
Moravian	...	...	...	...	9
Roman Catholic	...	...	...	...	9

The number of children attending school is estimated at 10,300.

GENERAL OBSERVATIONS

The mixed population is contented and thoroughly loyal to the mother-country. The negro-creoles are Dutch in sentiment, and the coolies, who have elected to settle in Surinam, promise to be a very valuable element.

There can be no expansion of territory, for the boundaries with Great Britain, France, and Brazil have been amicably determined and settled.

Expansion of the cultivated area is much to be desired. The plantations at one time extended to a far greater distance inland, and were much more numerous than at present. By the expenditure of capital vast possibilities might be realised in a land where all tropical products flourish and the forests are full of valuable timber and offer great scope for the balata industry.

IV. ECONOMIC CONDITIONS

(A) MEANS OF COMMUNICATION

(1) INTERNAL

(a) *Roads*

THE natural highways of Dutch Guiana are its rivers, and therefore the country has no good roads and not many bad ones. Such roads as exist are for the most part near the capital, Paramaribo, and in the Coronie district, which has fewer waterways than the other inhabited regions of the colony. Privately constructed roads or tracks are occasionally to be met with upon or in connection with a plantation or a goldfield. Even in the capital the streets are of indifferent quality, are unequal to the demands of heavy traffic, and are in constant need of drainage and repair. Beyond the urban limits the roads are still poorer and even less useful. The majority of them are situated in low-lying swampy localities; in the absence of good and cheap materials they are made of inferior substances, lacking solidity and permanence, and all of them are exposed to the disintegrating effects of a prolonged and heavy rainfall. Whilst in favourable circumstances motor-cars may be used upon a few of them, and bicycles upon a greater number, the purpose normally served by the majority is for the passage of mule-carts and donkey-carts, with carrying capacities respectively of about 11 and 7 cwt.

The most important road in the interior is that known as Brownsweg, from Berg-en-dal to the Brownsgebergte. This road, $17\frac{1}{2}$ miles long and 13 ft.

broad, was privately made in 1890 by the owner of the Montana Mine. The numerous "creeks," or small rivers, which it traversed necessitated the erection of about one hundred bridges, and the cost of construction amounted to £3,000, or rather more than £171 a mile. In the case of the bush road the problem of maintenance is not much inferior in difficulty to that of construction. Thus the Brownsveg was still fit for use by light carts in 1903, but two years later many of the bridges had perished and whole stretches of the road were overgrown by tropical vegetation, so that extensive repairs were necessary. The first section of $7\frac{1}{2}$ miles having been repaired and a connection made to the Placer Van Jong Savannah, the new route was for a time utilised by mule-carts in connection with the Placer Gros and with the railway which was under construction at that time. In 1907, however, an exceptional rainfall carried away most of the bridges on both sections of the road, and the whole again became impracticable for wheeled traffic. Yet, costly and troublesome as they are, a few cart-roads are generally maintained upon the goldfields.

Mules come from America, and used to cost £33 or £34 before the outbreak of war. Horses are scarce. Besides mule-carts and donkey-carts, pack animals are sometimes used, and riding is practised here and there, but competent grooms are few, and there is a scarcity of fodder fit for a beast in heavy work. The most useful form of transport in the interior is human portage. The carrier, unless he be a negro from the French West Indies, where loads are carried on the head, usually straps his burden on his back, and an experienced man will carry 65 lb., 75 lb., or even as much as 90 lb. But this mode of portage is a knack to be acquired only by long practice, and while 55 lb. may be regarded as the normal burden, a load of 35 lb. will try the powers of the beginner. The distances which the carrier can cover are governed to some extent by the nature of the ground; but six miles laden and six unladen constitute a fair day's march when con-

ditions are normal. In the Lawa mining area, where there is hilly and difficult country, portorage is in the hands of special carriers. Elsewhere on the goldfields the mining hand is generally sent down himself to fetch his rations from the mine's provision depot, established on the bank of the nearest navigable creek, and he usually contrives to bring back 46 lb., or a three-weeks' supply. The pay and food allowances of the professional porter are such that it costs approximately 10s. 6d. to move 88 lb. a distance of six or eight miles. The expense of moving light articles is, however, of small moment in comparison with the prohibitive cost, and sometimes the physical impossibility, of transporting heavy articles through the bush. All the industries whose operations are conducted in the interior, such as gold-mining, timber-getting, and balata-collecting, are affected in varying degrees by the transport problem. The mines are perhaps the chief sufferers, for the difficulties of moving heavy machinery through the bush can readily be imagined. Insuperable though they may appear, these difficulties have sometimes been surmounted. Some years ago a 170-ton dredger was delivered to the Gran Placer, a distance of some 105 miles by water and $6\frac{1}{4}$ by land, the cost amounting to about £43 a ton; and a 400-ton hydraulic apparatus, sent from England to the Dutch Guiana Concessions, was delivered at a still greater proportionate cost.

(b) *Rivers*

The means of communication by water are much more satisfactory. The bounty of nature, aided in places by the industry of man, has endowed Surinam with an extensive network of waterways, and adequate facilities for utilising it are provided. Here, as in the neighbouring colonies, the utility of the numerous rivers is diminished by the rapids and falls which encumber their courses; and, since the Surinam rivers are apparently dependent for their water supply upon the rainfall, there is a deficiency of water in times of

drought, even in parts of the lower reaches; but the inhabited and cultivated areas are intersected by a remarkable network of rivers, creeks, and canals. It is even possible for a vessel to pass from the boundary river on one side of the colony to the boundary river on the other without once going into blue water; and, with the exception of Coronie, not a single coastal district is dependent upon roads and wheeled traffic.

The chief rivers of Surinam, named in order from west to east, are the Corentyne, the Nickerie, the Coppename, the Saramacca, the Surinam, the Cottica, and the Marowynne.

The *Corentyne* (*Corantijne*), which is 4 miles wide at the mouth, is the broadest river in the colony, and is navigable for a considerable distance. The entrance is obstructed by flats, and the bar, which has 15 ft. of water on it at high-water springs, has no more than 7 ft. when the tide is down, while low-water depths of two fathoms or less extend for some miles beyond it. Ships of 10 ft. or 11 ft. draught can reach the Indian village of Oreala, which is 60 miles from the sea, but such vessels seldom ascend above the southernmost plantation some 4 miles from the mouth. Craft drawing 5 ft. or 6 ft. can proceed upstream for a distance of about 150 miles. The first falls are reached on the seventh day by canoe or rowing-boat from Oreala, and on the following day the traveller comes to the great fall of Wonotobo, which is 90 ft. high. In the lower river the ebb tide runs with a velocity of 3 to $3\frac{1}{2}$ knots in times of rain. The Corentyne is the boundary river between Dutch and British Guiana.

The *Nickerie* is distinguished by the great distance for which it is navigable, and although awkward mud-flats obstruct its entrance, ships of 9 ft. or 10 ft. draught can proceed for more than 60 miles upstream. New Nickerie is about 3 miles from the entrance. At the mouth of the Arrawarra creek the main river is still 80 yards wide and upwards of 20 ft. deep. In ordinary seasons steamboats can proceed as far as the mouth of the Zonnevisch creek. Above that

point the rocks begin, and a little higher up the first rapids occur. At 25 miles from the mouth the Nickerie is joined by a large but sinuous tributary, the *Maratakka*, which is about 85 yards wide, and navigable for ships of 9 ft. or 10 ft. draught to the point of its junction with the Takomaro creek.

The *Coppename* has a mud-bank at its mouth over which ships drawing 15 ft. or 16 ft. can pass at spring tides, and the river can be ascended by such vessels as far as the Wayombo creek, whence Coppencrissie, the chief settlement of the Boschnegers (Bush negroes) on this river, is reached by river steamer. The *Wayombo*, which has a depth of 16 ft. at its mouth, is connected with the Arrawarra-creek, a tributary of the Nickerie, and this connection, which can be used by large boats at all times of the year, is available for steamers in the rainy season. Of the other affluents of the Coppename the *Cusewyne* is navigable for small steam vessels for some 15 or 16 miles, when overhanging foliage does not offer obstacles to decked craft, and the *Tibitie* can be ascended by vessels of 9 ft. draught as far as the Kabo creek.

In the *Saramacca*, which has a mouth common to itself and the Coppename, navigation is impeded by the narrowness of the river and its tortuous course, and this stream is not much used by sea-going vessels, though in the rainy season ships of 11 ft. draught can go up as far as Anna's-Zorg. Joined as it is to the Surinam River by the Saramacca Canal, the Saramacca offers an opportunity for a river service between Paramaribo and Mindrinetie Station, whence access is obtained to the goldfields of the Upper Saramacca and of the Mindrinetie creek. The river is always navigable for small boats to Kwakugron; in normal seasons it is navigable to Brokolonko; and in the rainy seasons Jacob Kondré can be reached. Above Kwakugron there is no water in periods of drought for anything except canoes. On the Mindrinetie creek conditions fluctuate, and the creek is very tortuous, though many of the bends can be avoided by the use of natural short

cuts. These waterways used to be of great importance in connection with the goldfields of the district, which include some well-known mines; but their utility has been diminished by the construction of the railway (see p. 27).

The *Surinam* (*Suriname*) is the most important river in Dutch Guiana. Vessels of considerable tonnage can reach Paramaribo, which is situated on the west bank some 13 miles from the mouth (see p. 29), and for vessels of smaller draught the river is navigable for a considerably greater distance. The influence of the tides extends for 60 miles from the mouth, and at 85 miles the water becomes fresh. The upper river is the natural highway to what are known as the first and second gold zones, and on the whole it may be considered to be convenient for this purpose, though there is a deficiency of water in times of drought, and there are awkward rapids in the river and in the Sara and Gran creeks. When the gold industry was in its prime parties were stationed at these rapids to assist the boats, but with the decentralisation of the industry this practice has fallen into desuetude. There is a regular service upstream from Paramaribo, which extends to Boschland, an eight-hours' journey in normal conditions, but in times of drought has to be suspended at Berg-en-dal, a four-hours' run. From these stations many goldfields may be reached in canoes or other privately chartered craft. The importance of this route to the interior, which was formerly used by some thousands of persons annually, has been diminished by the construction of the Lawa Railway.

The chief affluent of the Surinam, the *Commewyne* (*Commewijne*), joins the main river some 7 miles above its mouth. It is 1 mile wide at the entrance, with a low-water depth of 9 ft. About 15 miles up is the settlement of Sommelsdijk, which can be reached by light-draught vessels. The banks of this river are highly cultivated, sugar and cacao plantations being scattered along it. The Commewyne is in its turn

joined by the *Cottica*. Of less importance physically than the other streams mentioned, this river flows through a country of which much has been developed, and it possesses a steamboat service.

The *Marowyne* (*Marowijne*, *Maroni*), the boundary river on the side of French Guiana, is bigger than the Surinam, but is not so deep, and ships of 11 ft. draught are the largest that can enter. Such vessels can go to Albina, where a jetty 88 ft. long offers facilities for discharging. The Marowyne is joined by the *Tapana-honi* and *Awa* (*Lawa*) rivers, the latter of which gives its name to an important gold-bearing district.

River Transport.—The establishment of a steamer service on the rivers was tried by private enterprise, first in 1836 and again in 1857, but both attempts failed. The matter was then taken up by the Government, to provide access to the goldfields and the balata forests. As now maintained the river services may be pronounced not unsatisfactory, having regard to the scanty population and to agricultural and industrial conditions. At the end of the year 1914 the Government owned sixteen steamers and motor-boats, and operated services on the Surinam, Commewyne, Cottica, Lower Saramacca, and Marowyne rivers, besides maintaining connection by sea or river between Paramaribo and places not included in the river services, such as Albina, Coronie, and New Nickerie. In the case of Coronie the service is liable to suspension, and is never very satisfactory, as mud-banks make it necessary to lie far off-shore, and passengers and goods have to be embarked and disembarked in a small boat in a sea which is often rough. Privately owned schooners and cutters occasionally ply to New Nickerie and Albina, and cutters sail between Paramaribo and Coronie, often going by way of the Saramacca, although at high tide these small craft can get over the mud-banks off-shore. A service on the Upper Saramacca, provisionally opened in connection with that on the lower river, was suspended early in 1915 for lack of support, and several other services are liable to suspension or curtailment.

by reason of climatic conditions, such as a severe drought, or of industrial fluctuations, such as a temporary failure of balata. All the services are mainly for passengers, the carriage of goods being of small importance and limited to light articles, on account of the absence of jetties on most of the plantations and the consequent difficulty in charging steamers. To load a vessel in mid-stream from small boats is a tedious and costly process, so that growers prefer to market their produce in their own boats, the more so as all the estates are within the tidal limits, where navigation is easy.

Owing to the convenience of the tides and to the variability of the winds at short distances inland from the coast, not much use is made of sails on the rivers of Surinam. Nor are boats often towed, owing to their small dimensions and to the unsuitability of the river steamers for such a purpose. In the old days, when the slave-owner commanded a plentiful labour supply, passengers travelled in large rowing-boats, which were 30 ft. or 40 ft. in length, were worked by a crew of four or six men, and had cabin accommodation for eight persons or more, while goods were carried in great punts, which were wholly or partly covered. Such craft may still be seen on the lower rivers, where they can cover fair distances on the tide; but on the rivers as a whole the chief means of locomotion, apart from the steamer and motor-boat services, is the Indian or Boschneger canoe, the Boschneger in particular being a really wonderful waterman. So far as the use of the old-fashioned boats and punts is curtailed by lack of labour, matters could apparently be remedied by installing motor engines in some of the boats, which could then carry the estates' personnel with speed and convenience, and could tow a string of laden punts. The navigation of the upper rivers, never easy anywhere in Guiana on account of the rapids and falls by which the streams are broken, is rendered exceptionally difficult in Surinam by the great variations in the depth of water from season to season, the rivers

running almost dry in periods of drought, and frequent unloadings and land porterages being then necessary. The cost of transport is thus considerable.

(c) *Railway*

The colony possesses one line of railway. It is known as the Lawa Railway, and was originally intended to reach the Lawa gold district, but the result of a scientific investigation of the Lawa field was thought not to justify a great outlay for construction, and it was decided that the terminus of the line should be at Dam on the Sara creek. A line to the interior had long been talked of, but nothing was done until in 1903 the Government took up the proposal and began operations. The first section of $24\frac{1}{2}$ miles, begun in September 1903, was completed and opened for traffic in March 1905. Rates on this section were fixed at moderate amounts, to induce settlement, and a good deal of land along the line was taken up by British, Indian, and creole settlers. Another 25-mile section was finished soon after the completion of the first, but after that the progress of construction became slow. In 1906 about 65 miles were open for general traffic; in 1908 the line reached the Surinam River, 83 miles from Paramaribo, and the last section, to Dam, was completed in 1912.

After running through the Para district the line bends towards the south-west near the Saramacca River, which it touches near Maäbo, then goes along the Mindrinetie creek to the Surinam River, which it meets at the mouth of the Makami creek. The Surinam, which here is over 300 yards in breadth, is crossed by a cable ferry in lieu of a bridge. From the right bank of the river the line runs on, approximately south-eastwards, over the watershed which divides the Surinam from the Sara creek up to its point of junction with the creek, and thence along the creek to Dam. The distances from Paramaribo are 49 miles to the Saramacca and 83 to the cable station, and the

total length of the railway is 107 miles. Including the delay, normally of about an hour and a-half, at the cable station, the whole journey occupies about $10\frac{1}{2}$ hours. There is only one through train each way in the week. River services run in connection with the railway.

On the annual average of the years 1906 to 1915 the railway carried 5,496 first-class passengers, 209,668 second-class passengers, 3,469 tons of goods, and 10,152 ounces of gold, the corresponding receipts being £387, £5,882, £2,535, and £224; other receipts amounted to £1,306; and the total receipts averaged £10,334.¹ Critics of the railway have asserted that it traverses the poorest agricultural land in the country, that the gold district it serves is limited, that the train service is inadequate, that the present terminus is unfortunately situated, and that, although rates are high, the working expenses are higher still. Appropriations for construction and maintenance have certainly been large, but the railway has not long been equipped for regular traffic; settlements, plantations, rubber estates, timber concessions, and mining propositions are gradually multiplying within the sphere of its influence; the receipts show a tendency to increase; and its future should be brighter than its past.

(d) *Posts and Telephones*

The internal postal service of the colony was re-organised and improved by regulations of 1888, 1896, and 1907. Post-boxes are found at the post-offices of the chief towns and settlements, at the landing-places of the Colonial Steamer Service, and at the headquarters of the Commissioners of the several districts. On December 31, 1915, the length of Government telephone lines was about 500 miles; the service had a personnel of 20 officials; and, including Government connections, there were 358 subscribers.

¹ *Koloniale Verslagen*.

(2) EXTERNAL

(a) *Ports*

Paramaribo, the capital and chief port of the colony, is situated on the Surinam River, about 13 miles above the mouth. Ships of 16 ft. draught can reach the port at high-water neaps, vessels of 20 ft. or 21 ft. draught can enter on the spring flood, and vessels up to 12 ft. in draught can enter at all states of the tide. In the mouth of the river, which is 2 miles wide, there are hard mud-banks at the sides, and a fairway in the middle over soft mud; the channel is well marked by beacons, lights, and buoys; but assistance is desirable in entering, as bars are apt to form in the river. Off the town there is an anchorage in four or five fathoms, and the town has a deep-water frontage of about one mile, a small portion of it wharfed and the whole furnished with quays, piers, and warehouses. At the wharf owned by the Royal West India Mail Service (Koninklijke West-Indische Maildienst) mail steamers berth alongside in a depth of 18 ft. at low water; the quays of the Colonial Steamer Service and of the State Railway can accommodate equally large vessels; and the Government and Customs House jetties and a privately owned pier each have depths of 16 ft. at their east ends and 12 ft. at their west ends at low-water springs. At the coal wharf, where 4,000 tons of Welsh steam coal are generally kept in stock by the Netherlands-Indian Gas Company (Nederlandsch-Indische Gasmaatschappij), there is a depth alongside of at least 20 ft. A certain number of cranes exists, but there appear to be no facilities for lifting really heavy weights. There is a Government machine-shop for repairing steamships, but there is no dock accommodation; this must be sought at Georgetown or in the West Indian Islands. Provisions of all kinds are rather costly, and water is sometimes scarce.

New Nickerie, on the Nickerie River, some 3 miles from the mouth, may be visited by vessels of moderate draught (see p. 22), and similar vessels may reach

Albina on the Marowyne, at both of which places there are facilities for loading and discharging cargo. A few of the great estates on such rivers as the Surinam, Commewyne, and Cottica have jetties capable of accommodating ocean-going vessels. For example, the Marienburg sugar estate has a jetty 164 ft. long with a depth alongside of 19 ft., at Belwaarde on the Surinam, as well as a smaller jetty on the Coppename. Estates on the Nickerie are also sometimes served by sailing-vessels, though sails have for the most part been superseded by steam in Surinam waters.

(b) Shipping Lines

Although the colony does not lie on any great line of communication, such as that between Europe and South America, yet in normal conditions it has a fair steamship connection with Holland, the United States, and West Indian ports. The Koninklijke West-Indische Maildienst, fortnightly from Amsterdam to New York, *via* the British and Dutch West Indies, Venezuela, and Hayti, makes Paramaribo the first port of call on the outward and the last on the homeward voyage. Every three weeks the port is visited by steamers of the Trinidad Steam Shipping Company, running between New York and West Indian ports. There is a connection monthly with the service of the Compagnie Générale Transatlantique from Saint-Nazaire to the West Indies, Martinique, and Colon. Connection with other European and American services may be had by the vessels of Sprotons, Limited, of Georgetown, who run a fortnightly service to Paramaribo, calling at New Nickerie, and by the fortnightly inter-colonial coastwise service maintained by the Dutch Colonial Government. In former days, and notably in the early years of the present century, Surinam was still better served by steamship lines. Regular or frequent calls were then made by vessels of the Royal Mail Steam Packet Company, the East Asiatic Company, the Quebec Steamship Company, the Scrutton

Line, and the Società di Navigazione Generale Italiana. The Royal Mail service provided a direct connection with the United Kingdom, and its discontinuance was a set-back to British trade interests in Surinam. The now abandoned service of fruit steamers (see p. 46) also furnished a convenient means of carrying passengers, cargo, and mails to the United States. Of the connection with the United States, as it exists now, merchants complain that the shortness of the time during which ships lie in port, coupled with the uncertainty of the posts, presents grave impediments to business.

Shipping Statistics.—On the annual average of the years 1905 to 1914, 225 vessels of 179,398 tons entered the ports of the colony. Of these 108, with a tonnage of 125,731 tons, or 70 per cent. of the total tonnage, were Dutch; 72, of 19,685 tons, or 11 per cent., were British; 26, of 16,647 tons, or 9 per cent., were French; 6, of 9,917 tons, or $5\frac{1}{2}$ per cent., were Danish; and 13, of 7,418 tons, or $4\frac{1}{2}$ per cent., belonged to other countries. On a comparison of the annual averages for the periods 1905-9 and 1910-14, the total shipping showed an increase from 222 vessels of 155,860 tons on the average of the first period to 227 vessels of 202,937 tons on the average of the second; and on a comparison of the same averages the percentage of Danish tonnage doubled, and Dutch, British, and French tonnages showed actual increases but small relative declines.¹

(c) Cables

The cable connection between Surinam and the outside world is maintained by the Compagnie Française des Câbles Télégraphiques, which in 1889 acquired a concession for linking up the colony with the international telegraphic system. It has two submarine cables—that to Martinique gives connection through other West Indian islands with New York and with

¹ *Koloniale Verslagen.*

Europe, while the cable to Cayenne gives connection with Europe and with Brazil. Under the terms of its concession the company was to receive a subsidy for the term of 25 years, but the subsidy has been continued, the company alleging that the costliness of the service prohibits its maintenance without a grant in aid. Besides being costly, the service is somewhat inefficient, interruption being of not infrequent occurrence, while the absence of a cable ship involves much delay in the execution of repairs.

(B) INDUSTRY

(1) LABOUR AND IMMIGRATION

In Surinam, as in the neighbouring colonies and in many tropical countries where the white man is incapable of prolonged manual exertion, the maintenance of an adequate labour supply is a matter of perennial difficulty. Want of population, and especially of labour, said the official report for 1908, is a complaint from which Surinam has suffered much in the past, and beneath which she might yet succumb. This it was which caused the importation of slaves in former times, and, after the abolition of slavery, led to the importation of indentured labour. As a plantation colony, the prosperity of which depended entirely upon one or more agricultural exports, Surinam was greatly embarrassed by the emancipation of the slaves, who refused to go on working for their old masters. Offers by the planters of premiums for immigrants failed to avert the prospect of ruin, and the Government itself was compelled to seek for the solution of a problem which was both vital and urgent. Its first step was the formation of an Immigration Department. A supply of workpeople from British India being eagerly desired, an agreement was made with the British authorities under which power was conferred upon the Dutch Government to recruit a labour force in British India under a five-year indenture system. This convention

was signed at The Hague on September 8, 1870. It stipulated that the contract of service was to be concluded in India; that the engagement was to be for a period not exceeding five years; that recruitment was to be for agriculture or commerce, and not for work in the forests or in the goldfields; that the pay and conditions were to be at least as good as those prescribed in the Ordinance of 1861 relating to labour in Surinam; that the immigrant was to be entitled to a free passage home at the expiration of his indenture; and that British officials should enjoy facilities for watching over the interests of the coolies. The convention was followed in 1878 by a Colonial Ordinance establishing an Immigration Fund, and in the following year by an Ordinance regulating the treatment and care of indentured labourers on the estates.

For the planter the defects inherent in the importation of foreign labour are its costliness and the risk of failure by reason of the physical condition of the workpeople supplied. These defects the Ordinances of 1878 and 1879 went far to remove. The policy of the Immigration Fund was to bear the whole cost of the introduction and passage home of the force recruited, and to charge against the planter—and that only for payment by way of instalments—no more than three-fifths of the cost of importation alone of persons supplied to him in a condition of physical efficiency. The arrangement relieved the planter of many of his anxieties; he now knew precisely what his liabilities would be; he did not run the risk of squandering money on recruits who might arrive incapacitated by disease; he did not have to pay for the carriage of children too young to be of use to him; and he did not have to provide for an unknown liability in respect of return passages which might or might not be demanded at the expiration of the period of indenture.

If the expenditure incurred by the Fund has thus been advantageous to the planter, it has also been beneficial in a marked degree to the colony as a whole. To it are officially attributed a growth of nearly 50 per

cent. in population, a distinct improvement in economic conditions, and a steady increase in the general welfare. From 1903 to 1914 the immigration of British Indians and Dutch East Indians amounted to not far short of 1,500 a year. Since 1853 more than 50,000 immigrants in all have been introduced, of whom 33,721 came from British India, 11,283 from the Dutch East Indies, 2,675 from the West Indies, 2,502 from China, and 480 from Madeira. The contribution of immigration to the permanent population has been the more remarkable in that it has been only during the present century that serious endeavours have been made to convert the *ci-devant* indentured labourer into a colonist, and that it has been only within comparatively recent years that small holdings have begun to multiply and prosper. "Immigration under contract," said the *Koloniaal Verslag* (1908), "followed by settlement, is at present the only way in which a population can slowly be created in Surinam, and the example of the neighbouring British colony must be followed in this respect." The British Commissioners who investigated the conditions affecting British Indians in Surinam in 1913 reported that wages were rather unsatisfactory, as a result of the depressed condition of the plantations, at that time suffering from the ravages of disease, but that the immigrants had a favourable prospect before them as colonists. "Immigration into the colony," they said, "must depend primarily upon the wages paid to indentured labourers. Unless the earnings of able-bodied men generally exceed three guilders a week during the five years of agricultural apprenticeship which precede settlement, emigration to the colony cannot, in fairness to the immigrants, be recommended. . . . If tasks and wages in Surinam were modelled on those of British Guiana, the perquisites or special rewards being taken into account, and if the active colonisation policy of Surinam were imitated by British Guiana, industrious labourers emigrating to either colony would not fail to prosper."

The British Indian coolie possesses many of the qualities and aptitudes that go to the making of a good agricultural labourer, and by his diligence, thrift, and ambition he is well fitted to play the settler's part. His chief defect is, perhaps, the inferior physique which retards his acclimatization and leads to a loss of work which in the aggregate is often considerable; but to set against this he is willing in temper, amenable to discipline, regular in his habits, and generally adaptable to the requirements of the estates.

Experiments with Javanese labour were begun in 1890, when the Nederlandsche Handelmaatschappij overcame the objections of the authorities to the recruitment of indentured labour in the Dutch East Indian dominions. The Javanese is more costly to import than the British Indian; as a labourer he is often guilty of deliberate slackness; and levity of disposition, love of display, want of thrift, and an abiding longing for his native country unfit him for the work of colonization. He is, however, remarkably successful in plantation work; his temper is gentle and conciliatory; and if inferior to the Indian in the manipulation of the shovel he is immensely his superior in the more delicate operations of the estate. In Dutch eyes it is also in his favour that he comes from Dutch dominions.

Though the British Indian and the Javanese are the mainstay of the labour market, other labour has been introduced from time to time, chiefly from China, the Portuguese Possessions, and West Indian islands. Like the Javanese, the Chinaman is obstinate in preserving his *animus revertendi*, and is thus of little use from the point of view of colonization. Of those who do remain, most establish themselves in small retail trade—much to the disgust of their Surinam competitors—and only a few continue as free labourers on the estates. These are invariably necessitous in their old age, when they have to be cared for at the expense of the colony, and the

charitable institution called " 's Landsgrond Boniface," the refuge of the aged and infirm, is usually full of them.

A few Portuguese labourers from Madeira and the Azores have been brought in in years gone by. They came with a useful knowledge of sub-tropical agriculture, but they were physically unequal to the demands of plantation work in Guiana, and speedily deserted the land for peddling, small trading, and shop-keeping, in which pursuits they attained great success. From the West Indies immigration into Surinam has never been considerable, owing largely to the competition of British Guiana and Trinidad; nor has it been conspicuously successful. As independent mechanics and artisans, however, many of them have done useful work; and the West Indian negro brings a valuable reinforcement to the balata forests, the timber concessions, and the goldfields. Primarily, however, it is to the Boschneger, the descendant of the ancient slave, that those industries have to look for their labour supply; and his marvellous skill in the management of a canoe has given him a virtual monopoly of transport on the upper rivers.

On December 31, 1913, there were on the plantations 4,431 British Indians under indenture, of whom 2,805 were men; 1,989 British Indians not under indenture, of whom 916 were men; 4,731 Dutch East Indians under indenture, of whom 3,326 were men; and 1,849 Dutch East Indians not under indenture, of whom 491 were men. In addition, there were in the colony 21,217 British Indians and 3,033 Dutch East Indians who were not under indenture and were not on the plantations. The general labour force of the estates at that time consisted of 8,505 men, 3,100 women, and 169 children. Of 45,000 persons whose occupations are recorded in the official statistics, 32,000 are engaged in agriculture, 4,000 in the goldfields and forests, and 5,600 in trade and commerce.¹

¹ *Koloniale Verslagen.*

In 1913 a Commission was appointed to collect information and statistics relating to labour, and to advise the Government on labour questions in general, and in particular with reference to the proposed establishment of some Labour Exchange system.

(2) AGRICULTURE

Estates and Plantations.—From the early days of European occupation agriculture has been the predominant industry of the colony, and "Surinam has become an agricultural colony to such an extent that the history of agriculture may be regarded as the economic history of the country."¹ The reclaiming, or "empoldering," of land and the cultivation of crops began on a considerable scale in the last quarter of the seventeenth century, when estates increased fourfold in number, and the export of sugar more than doubled within the space of 5 years. On the whole, though with fluctuating fortunes, sugar has retained throughout the pre-eminence which it then acquired. The success of sugar encouraged other ventures; cotton, cacao, and coffee became in turn exports of varying importance; and tobacco, indigo, and other crops were tried. In 1730 the estates numbered 400. At the close of that century they had increased to 665, with a labour force of 60,000. A period of difficulty and decadence then set in, brought about mainly² by the restriction and eventual suppression of slave labour, the extinction of the cotton-growing industry by American competition; the menace to the estates of bounty-fed beet sugar, and the pernicious effect of gold discoveries in deflecting capital and labour from the land; and the nineteenth century witnessed a rapid abandonment of the estates, as one planter after another surrendered to the inevitable. In 1832 the estates had decreased in number to 451, in 1840 to 383, and in 1853 to 263, the

¹ *Encyclopædie van Nederlandsch West-Indië*, p. 440.

² For other contributory causes see p. 14.

total area in cultivation at the last-mentioned date being reckoned at 130,000 acres. At the time of the emancipation of slaves (1863) the estates had fallen in number to 217, the cultivated area to 41,000 acres, and the labour force to 32,000; and in 1873 the figures were 123 estates with a cultivated area of 25,000 acres and a labour force of 13,000. The decline was then arrested, and since the beginning of the present century there have been indications of renewed prosperity. In 1903, though the number of estates had fallen to 82, there was still in cultivation an area of 25,000 acres; together with the small holdings, the satisfactory increase in which has helped to retrieve the fortunes of the industry, there were employed on them 32,000 persons; and ten years later the cultivated area of estates and small holdings together had risen to over 50,000 acres.¹

It is to be observed that the extent of the cultivated area, when ascertainable, is a truer criterion of the condition of the industry than the number of the estates; for the big planter is in a position to encounter misfortunes beneath which the small grower succumbs, and the area of big estates has actually increased during periods when the number of plantations has been falling fast. Modern methods of cultivation and manufacture, particularly in the production of sugar and in the growth of bananas for foreign markets, necessitate operations on a large scale, backed by considerable resources; and though the sugar estates are now reduced in number to five they produce as much as ever came from Surinam cane fields in agriculture's halcyon days. Ample supplies of capital are still to seek, but immigration has eased the labour situation, the cultivated area is again expanding, agricultural exports are once more rising, and there are indications that the policy of the Colonial Government and the patience and resource of the planters will recapture something of the lost prosperity. In a word, Surinam

¹ *Koloniale Verslagen and Encyclopædie van Nederlandsch West-Indië.*

agriculture, after passing from an epoch of rapid expansion to a period of still more speedy decay, is now in a condition of suspended animation, lately stirred by symptoms of renascent welfare.

The revival would have been more marked but for the epidemics of disease which have repeatedly ravaged the estates in recent years. Cacao has narrowly escaped entire ruin, and failure has overtaken an interesting experiment in the growth of bananas for export. The exceptional liability to disease in Surinam estates is not readily explicable, but it may be observed that the climatic conditions affecting them are somewhat different from those which obtain in British Guiana. In that colony nearly the whole of the empoldered area runs along the sea shore. In Surinam, on the other hand, where the land rises slightly at the coast, the plantations lie up the rivers at some little distance from the sea. Here the winds become light and variable; and, although the situation has some advantages, it would seem possible that the spread of disease may be favoured by a hot and humid atmosphere uncleansed by breezes off the sea.

Against this liability to disease must be set off an exceptional fertility in the soil. Nothing could be better suited to the sugar-cane than the alluvial clay of the polders on the lower rivers, where cultivation takes place, and it "has been pronounced by qualified opinion to be of considerably higher fertility than the general run of sugar-cane land in British Guiana."¹ Generally the soil of the low-lying lands is so rich that harvests can be reaped off it for a great number of successive years without the intermediate application of fertilisers and without any diminution in the yield. When at last a part of the property does show signs of lessened productivity, it is withdrawn from cultivation, dammed in, and inundated; and after lying fallow thus for a few years it may be brought back into cultivation in a condition of pristine fertility. This

¹ Consular Report, *Trade of Surinam*, 1913, Cd. 7620-66, annual series, No. 5456, p. 8.

method of treatment is made possible by the extent of the plantations. The Surinam polder, or area of land reclaimed by dams, dykes, and drainage and irrigation canals, corresponds in all essentials to its counterpart in British Guiana, but it usually contains a much greater proportion of uncultivated ground, since empoldering was originally carried out on an extensive scale, and great plantations were thus created with areas largely in excess of modern requirements. Accordingly, not only may this rotation of cultivation and inundation be followed on existing plantations, but new ones may be created cheaply by the reclamation of abandoned polders, for the repair of neglected dams and sluices, the dredging of old dykes and canals, and the clearing away of scrub constitute a far less formidable process than the empoldering of virgin land. Some practical benefit thus accrues from that which is in itself a certain indication of the decadence of the agricultural industry. Higher up the rivers, where the small holdings are situated, the fertility of the soil decreases, and it is the practice of many small holders to bring fresh ground into cultivation each year, so as to avoid the cost of manuring.

Small Holdings.—In official terminology a holding of 25 hectares (62 acres) or over is a plantation or estate, and a holding of under 25 hectares is a small holding or ground. The real difference between large and small holdings, however, lies not so much in their extent as in the economic principles upon which they are conducted. The estate represents a combination of capital with labour for the production of articles of export. The small holder grows with his own labour crops for his own needs and for local consumption. This, at least, is the theory, but in practice the small holder makes some contribution to the export trade, and his independence of paid assistance tends to disappear in proportion as he extends his operations under the stimulus of success.

The small holding may be said to be an outcome of coolie immigration. There had been some previous

experiments in land settlement, but these met with little success, and the great development of small holdings has followed upon the introduction of the coolie and the regulations of 1895, under which he may become the tenant or owner of a holding at the expiration of his indenture. Under these regulations small holdings have multiplied apace both within and without the limits of the Government settlements. In 1873 there were 1,181 small holdings; by 1903 these had increased to 19,756; and to-day the area in cultivation on the small holdings is larger than that in cultivation on the estates. The increasing domestic consumption for which it chiefly caters is of happy augury for the future of this branch of the industry. But the importance of the movement consists not so much in its contribution to agricultural progress as in the effect which immigration followed by colonization is likely to have in the creation of an agricultural population and the provision of an adequate labour reserve.

(a) *Products of Commercial Value*

Sugar is the most valuable of the crops, and makes the largest contribution to the export trade. On the annual average of the period 1900 to 1914 there were exported 8,862 tons of first grade sugar, of the value of £134,002; 869 tons of second grade sugar, of the value of £10,073; and 158,019 gallons of rum, of the value of £8,263.¹ The export of sugar has not increased much in quantity, but has nearly doubled in value, from 1900-4 to 1910-14. The export of rum is stationary. Production is high, and the yield of 2·1 tons per acre recorded² as the average for the years 1905-14 compares favourably with the results achieved in the neighbouring British colony. In the main the prevalent methods of cultivation and manufacture resemble those which are followed in the last-mentioned country (see *British Guiana*, No. 135 of this series,

¹ See Appendix, Table III, p. 72.

² In the *Koloniale Verslagen*.

pp. 54-5). Some anxiety is caused by root rot, rind disease, and insect pests, and the crops are occasionally impaired by drought. In 1915 there were five sugar estates: two in the Nickerie district, two on the Lower Commewyne, and one on the Cottica,¹ with a total area of 18,348 acres, of which rather over 7,000 were in cultivation, and a labour force of 6,771, of whom 6,184 were immigrants.² Nearly half the cultivated area is comprised in, and more than half the total production comes from, the united estates of Marienburg and Zoelen, on the Lower Commewyne, the property of the powerful Nederlandsche Handelmaatschappij. These are model sugar estates; commanding large resources, they operate on a large scale; they employ mechanical tillage and other power appliances; they own piers for lading ocean steamers (p. 30), and they are unique in Guiana in the possession of two lines of light railway, traversing the property and connected at intervals by transverse rails, which carry the canes to the factory and enable the labourers to cover without loss of time or energy the considerable distances which separate the centre of a large estate from its outlying portions. Though the large estates have contrived to hold their own, they still used to complain at the outbreak of war of the low prices caused by the competition of beet sugar; and they then cherished a hope, which, however, was not very sanguine, that they would benefit by the projected abrogation of sugar import dues in the United States, which are the chief market for their produce. Second grade or residuary sugar is used, as in British Guiana, for the manufacture of rum, and is also exported to Holland for the use of confectioners. Though the production of sugar in the colony is favoured by its climatic conditions and the fertility of its soil, labour is scarce, and, so far as available, is costly. Should those conditions continue to coincide with low prices in the world's markets no great

¹ The distribution by districts of agricultural production is shown in the Appendix, Table I.

² *Koloniaal Verslag*, 1916.

increase in the export of sugar can be looked for from Surinam; but a considerable expansion might be witnessed if supplies of capital and labour were assured by a reasonable certainty of remunerative prices.

Cacao, which provides 20 per cent. of the exports, ranks next in importance to sugar among the agricultural products. Owing to the ravages of disease it has declined sharply, and the average annual export, which amounted to 45,456 cwt., worth £134,490, in the period 1900-4, fell to 33,041 cwt., worth £94,522, and 31,622 cwt., worth £77,954, in the two succeeding quinquennial periods. Witch-broom disease and the disease known as *versteening*, or hardening of the pods, have been very virulent, and have reduced the yield by some 75 per cent., so that in 1904 production reached the lowest point touched for thirty years. The financial consequences of this failure led the estates into a vicious circle; planters drawing no income from their property could not afford to employ labour, and estates bereft of labour, where the trees were left unpruned and diseased refuse cumbered the ground, acted as prolific centres of infection. Neither the causes of the disease nor cures for them could be discovered, and the crop once so profitable seemed likely to go out of cultivation in the colony. The Government then took action, and in 1907 it was reported that under the direction of the Agricultural Department an experimental treatment had been applied with success on seven estates. The treatment consisted in a drastic pruning of the trees, of which only the trunks and principal branch stems were left; the cuts were then tarred over, the tree syringed with a solution of sulphate of copper, and the refuse removed and burnt. Trees thus treated were found to throw out a great number of vigorous branches, which bore large quantities of healthy pods; the new growth was free from witch-broom disease, and the proportion of hardened pods, which had risen to as much as one-half on the untreated fields, was found not to exceed 1 per cent. on the treated

areas. Moreover, it was estimated that within two years the increased yield thus obtained would more than suffice to cover the cost of treatment and the loss of crop by lopping; and, in fact, an estate which had produced nothing in 1905 and only 77 lbs. to the acre in 1906, yielded no less than 515 lbs. to the acre in 1908. In 1912 a drought of exceptional intensity exercised an unfavourable influence on the estates, especially on the small ones where drainage and irrigation are defective; but in 1914 it was officially reported that cacao was again thriving, the planters being more and more convinced that the witch-broom and pod-hardening diseases could be successfully fought, and that a recovery of the former yield and the former profit was going to revitalize the industry.

In the treatment of the crop when harvested few estates now follow the old practice of drying it in the sun, and the steam drying apparatus which many of them have installed ensures independence of the weather. Two small factories in Paramaribo, equipped with power plant, manufacture chocolate for local consumption.

Coffee seems likely to become an important crop in the near future, but at present it accounts for scarcely 2 per cent. of the total exports. In the period 1905-9 2,795 cwt., worth £6,848, were sent overseas yearly, and in the following quinquennial period 4,215 cwt., worth £13,935. Brought from Java about 1700, coffee was at one time a staple of the colony, but by the beginning of the present century it had suffered a serious decline. It has been said that no satisfactory cause has ever been assigned for this diminution, since Arabian and Liberian coffees grow well in Surinam, and enjoy a virtual immunity from insect pests and disease; but the reason lies in the scarcity and dearness of labour, which have hampered the agriculture of the colony in so many ways. Coffee is now grown on most estates, including those primarily devoted to other products, and it is coming rapidly into favour among the

small holders. " Surinam " or Arabian coffee has a good reputation in Europe, and in the United States there is a large market for the inferior Liberian variety.

In 1913 there were four factories for dealing with the beans, and in 1916, when the young plantations were looking full of promise, and high prices led to great activity, four new factories were established.

Bananas.—An interesting but unsuccessful experiment in subsidized agriculture has had for its object the growth of bananas for export. The venture was begun in 1906, when the Government entered into contracts with the United Fruit Company of America on the one hand, and with the Surinam planters on the other. The latter undertook that they would plant some 7,000 acres by instalments in three years, and would reserve their crop for exclusive sale to the Government; in return, advances at the rate of about £12 an acre in the first year and £6 an acre in each subsequent year of planting were to be made to them on the security of mortgages of the estates redeemable out of the anticipated profits of the venture. The Fruit Company, a concern controlling the importation of fruit into the United States, agreed to purchase all the available fruit, which was to amount to at least 20,000 bunches a fortnight, and to institute a service of steamers for its carriage from Paramaribo to New York. Provisions very favourable to the company were inserted regarding lading, delivery, payment of dues, &c., and prices were fixed. No more than 36 hours' notice was to be required for cutting and delivering the fruit, which necessitated the use of productive land in proximity to the port of shipment, an efficient organisation, and a not inconsiderable labour force, and prices involved a rigorous curtailment of transport and management expenses—conditions which precluded the participation of the small grower, and could scarcely have been complied with at all, had not the control of the industry been vested in the State. The Gros Michel variety was selected for cultivation,

and most of the plants were grown on lands abandoned from sugar cultivation in former times or more recently released from cacao cultivation by reason of witch-broom disease. For a time all went well. There were 2,300 acres ready in 1907, towards the end of which year the preparation of a further area was put in hand, and by the end of the following year 7,600 acres, or more than the stipulated area, had been put under cultivation, some of it independently of financial assistance from the Government. In that year 219,686 bunches were shipped, and in the two following years 646,017 bunches and 654,180 bunches. By this time, however, Panama disease was working havoc on the estates. Whether, as some people believed, because it was naturally virulent in Surinam, or whether, as others asserted, because it was favoured by too close planting, faulty cultivation, insufficient drainage, and neglect of expert advice, the disease progressed with fatal celerity. First noticed in 1907, it did great damage in 1908, and in the course of the two following years every plantation was attacked, and the fields could no longer be kept under cultivation. The Government was now compelled to refuse further advances on the original terms and to break its contract with the United Fruit Company, for deliveries were going from bad to worse, and the export, which had been 654,180 bunches in 1910, fell to 387,516 bunches in 1911, 213,999 bunches in 1912, 136,978 bunches in 1913, and 73,222 bunches in 1914. In the meantime there had been introduced a variety known as the Congo banana, which was believed to be immune from disease, and the Fruit Company volunteered to maintain its steamers for a short time longer to see if the Congo plants would produce a crop fit for export. This, however, in the opinion of the company, they failed to do; they ripened irregularly, and were inferior to the Gros Michel in colour, flavour, and keeping qualities; and the company, unable to handle an unmarketable product, withdrew its steamers.

The planters now had to choose between giving up their enterprise altogether or finding new markets and providing other shipping facilities. The prospect before them did not seem to encourage the adoption of the latter alternative, for they could not grow the Gros Michel variety; the Congo banana, which they could grow, had been pronounced unsaleable; and the banana in demand in Europe was a thin-skinned sort, easily bruised, difficult to ship, and already produced in large quantities nearer home. On two occasions in 1912 shipments of the Congo fruit to Liverpool had been made in a vessel belonging to Booker Bros., McConnell & Company, of Georgetown, and important groups both in Amsterdam and in Rotterdam had begun to consider the possibilities of a European trade. The Amsterdam group eventually decided that it would not touch the business without the co-operation of the Fruit Company, which could not be obtained; but the Rotterdam group, consisting of Wambersie & Son and Van Nievelt, Goudriaan & Co.'s Stoomvaart Maatschappij, entered into negotiations with the planters in reliance upon a promise of monetary assistance from the Government.

Before the war, a part of the produce of the banana fields was sold to a drying factory at Kroonenburg, which exported 1,239 cwt. of dried bananas, of the value of £1,310, on the annual average of the years 1910-14.

Rice.—The introduction of the coolie has created a demand for rice which in the past has been satisfied in the main by importation, but is now being met in growing proportions by domestic production, the coolie himself being an expert in its cultivation. From 1900 to 1914 the mean import was about ten million pounds a year, and it averaged as much as thirteen million pounds in the years 1910 to 1912; but in 1916 home production had increased so largely that the import fell to about five and a half million pounds. Many parts of the colony are well suited for rice-growing,

and crops are healthy in the main, though attacked by a leaf disease in the Para district. Most of the rice is grown on a small scale by British Indians, who have settled by the side of the railway, along some of the river banks, and in the Nickerie district. The locally grown product is a fine rice of excellent quality, greatly superior to the imported article. The five mills which the colony possesses are small affairs, and are able to work only spasmodically.

Rubber.—A wild rubber, indigenous to the country, is found in the forests, but it is of poor quality and small value. Para rubber was first introduced soon after the beginning of the present century as a result of the cacao failure, and excited a good deal of attention at the time of the "rubber boom," when 800,000 more seeds were ordered from Ceylon. The cacao and coffee soils of the country are said by competent authorities to be well suited for the growth of *Hevea brasiliensis*, but at present the export of rubber is negligible. The trees do not come to maturity as rapidly as in the East Indies, and production may be expected to increase as they get older, although in 1913 many planters who owned mature trees found it impracticable to tap them at the prices which then prevailed. Rubber has been mostly planted among bananas, but in one case a mining concern is growing 40,000 rubber trees on its land.

Other Crops.—Among other crops ground provisions are the most important, but coconuts, maize, cotton, and fruit are being grown on a small scale or are in an experimental stage. Ground provisions are grown to some extent on the plantations for the use of the labour force, and are largely produced on the small holdings for general consumption. Coconuts are found chiefly in the Coronie district, but heart rot has caused trouble there, and many palms have had to be destroyed. The disease is said to be not really dangerous, if proper methods of cultivation are followed, but owners have omitted to take adequate precautions, and the output remains stationary at some

800,000 nuts a year. In 1913 a concession of about 1,300 acres at Galibi, at the mouth of the Marowynne River on the Dutch bank, was acquired by the Tropical Exploitation Syndicate. Maize has become progressive since the establishment of an export trade to Curaçao and other West Indian islands; the area planted with it increased largely in 1913, and a much greater output was expected in succeeding years. The cultivation of oranges is also increasing, and some small experimental shipments have been made; but the fruit is small and of indifferent quality. Many delicious fruits might be grown in Surinam and excellent jams produced, but this branch of the industry is so utterly neglected that fresh fruit is very difficult to obtain. Cotton, once a product of great value, has gone out of cultivation altogether. In 1917, however, the Director of Agriculture instituted an enquiry into the possibilities of reviving its growth, and as a result it was determined to conduct a small experiment. The site selected was on the abandoned plantation of Lijdenshoop on the Malappua creek, where many cotton plantations flourished in bygone days. Other recent experiments with sisal hemp and tobacco have proved disappointing; neither are annatto and indigo any longer grown.

Live-stock.—In the old days of agricultural prosperity excellent cattle used to be reared on the estates, but stock-raising and dairy-farming are not now regarded with much favour. Obstacles to their success are found in the smallness of the population, the scarcity and costliness of labour, the difficulty of transport, and the want of good natural pastures. The clays grow coarse grasses, and in wet weather become swamps of mud; and the sandy belts, where better grasses grow, get scorched in times of drought. Some use is made of the savannahs in the Nickerie district, but frequently the so-called savannahs are mere swamps, overgrown with useless grasses, infested with flies, and generally unfit for grazing purposes. Good pasture is especially scarce in the neighbourhood of Paramaribo, where alone there is any considerable

demand for milk. As a result of the absence of pastoral development milk, butter, and butcher's meat are imported in considerable amounts. On December 31, 1915, the colony was officially credited with 219 horses, 651 asses, 184 mules, 8,529 cattle, 183 sheep, 2,845 goats, and 2,180 swine.

(b) *Forestry*

The forest industry is of much greater importance than the pastoral, and on the annual average of the period 1900-14, its exports consisted of balata to the value of £124,650 and timber to the value of £5,520, together amounting to rather over a quarter of the total export trade. Balata, a gum obtained by bleeding the balata or bullet tree, is a good substitute for gutta-percha, and the scarcity of that article during recent years has contributed to the striking expansion which has taken place in the balata-collecting industry in Surinam. From 1900 to 1909 the exports of balata were worth on the average about £57,000 a year. In the period 1910-14 they rose to an annual average of £258,654. Despite this considerable increase, however, the condition of the industry is not altogether satisfactory, and a Commission has lately been appointed to look into it. To begin with, balata-collecting is hampered by the want of means of communication in the interior; it is sometimes impossible to market balata which has actually been collected, and appreciable amounts are habitually lost by the capsizing of boats in the rapids and by other accidents of travel. Then the scarcity of labour and the heavy advances formerly paid to workmen have been prejudicial to success; but it is hoped that a new law, which controls the conditions of working and limits advances, will bring the labour of the industry under proper control. Most serious of all is the lack of supervision in the forests and the futility of all efforts to enforce the regulations which are supposed to govern the industry. Bleeders are paid according to the amount of dried balata which they bring in, and in the absence of

effective control they are free to ignore the Government regulations as to the manner in which trees ought to be bled and to extract as much as they can from each, regardless of consequences to the tree. Thus, although balata trees are found over immense areas in the colony, and constitute one of its most valuable assets, there is a danger that the whole industry will eventually collapse for lack of ordinary care and attention.

As regards timber-getting, the resources of the country are almost inexhaustible, and the forests contain enormous quantities of valuable timber, displaying all varieties of colour, weight, and texture. Cedar, mora, silverbally, balata, wallaba (*bijlhout*), crabwood, a wood called *manbarklak*, greenheart, purpleheart, brownheart, locus or Surinam teak, and letter-wood are among the more important timbers. Balata is found mostly in the neighbourhood of the savannahs, wallaba on the large open spaces near rivers and creeks, *manbarklak* along the great rivers, and brownheart in the hill country. Balata, with its lofty, columnar, branch-free stem and its fine colour, has a reputation in European markets; and cedar, used for cigar-boxes, is an esteemed export. Brownheart, very strong and durable, and handsomely coloured and marked, is suitable for building and for cabinet-making. *Manbarklak*, with its exceptional durability and its capacity for resisting worms, is a valuable wood for piers, locks, and other purposes involving immersion in water, and a certain amount is used in Europe in such ways. Greenheart is also a durable wood, and is employed for bridge-building in the colony; but Surinam greenheart is said to differ from, and to be decidedly inferior to, the remarkable wood of the same name which is one of the most valuable products of the forests in British Guiana. Such at least would appear to be the result of tests carried out in Europe, but in official experiments recently conducted in the worm-infested waters of the Surinam both woods alike were affected in the soft parts and to no great depth. In those tests mora and purpleheart were completely eaten

away, but *manbarklak* was practically untouched. Crabwood is a good substitute for mahogany, possessing the merit of being more easily worked; and many of the heavier and darker woods are good for furniture-making. The most singular of the ornamental woods is letter-wood, so called from the dark markings across the grain which resemble irregularly formed letters. It has long formed a regular article of export, and good pieces command high prices. A greater use of native woods for building and other purposes in the colony would be economical in the end, since they resist dry-rot, insects, and moisture; but cheap white wood, pitch pine, and American lumber are imported in consequence of their cheapness, of their greater ease of working, and of the irregularity in the supplies of local timber. Mangrove bark and other tanning materials, oils, turpentine, resin, balsam, and tonka beans are also among the products of the forests.

The valleys of the Surinam, Saramacca, Commewyne, and Coppename rivers are the chief centres of the timber industry, and these and other streams provide a convenient means of transport, so far at least as their lower reaches are concerned. In some districts, such as the Para, the timber is worked into planks, posts, &c., before being sent to market, but for the most part the unworked logs are floated down the streams. Some of the heavier sorts, which will not float in water, are dealt with by tying them to the lighter sorts or by lashing them to canoes. Transport from the place of felling to the river is still very primitive, consisting as it does of human haulage of the timber over forest tracks floored with short sleepers; and the application of such modern contrivances as the light railway and the cable would be advantageous. The difficulties of land transport are enhanced by the dispersal of the trees, hardly any of which are gregarious in their habits of growth, and their diffusion also involves a less efficient use of labour, larger costs of control, and greater difficulties in marketing a substantial amount of one sort of wood.

Impressed by the insignificance of the present export of timber in comparison with the potentialities of the forests, a firm trading in Paramaribo and Amsterdam have lately been at some pains to create a market for Surinam woods in Holland and Belgium. They succeeded in persuading the authorities to try some of them in public works, and in private quarters they got others used for joinery, cabinet-making, and parquet-flooring. Workpeople unfamiliar with the peculiarities of exotic woods found some difficulty in handling them, but this was an inconvenience which experience would have remedied, and the real obstacles to success have been the smallness and irregularity of deliveries, due to the incurable irresponsibility of the Boschneger, who monopolizes the labour supply of the industry. In his intense love of personal freedom the Bush negro prefers a florin earned with independence in the forest to the winning of much larger sums under the orders of the white man on the goldfields, and to that extent he is well suited to the timber trade; but he is utterly erratic and untrustworthy, and no substantial European connection can be built up so long as he persists in bringing in his goods months or even years behind the time stipulated for delivery.

In 1913 there were 74 timber concessions, 30 of which were held in the old terms of 10c. a hectare (rather less than 1*d.* an acre), and 44 on the new terms of 2c. a hectare with royalties on the timber felled. Concessions are now no longer granted on the old terms. Licences to explore for timber used to carry with them preferential rights to grants of concessions, but they were found to bring large areas into speculative hands, and in 1916 a new model licence was drawn up, so framed as to confer no rights which might be pernicious in their operation.

There are four saw-mills at Paramaribo and three on the plantations, an establishment for the preparation of planed planks, &c., and a furniture factory equipped with a power plant. A company has lately been formed to start the manufacture of paper pulp.

for which the resources of the country offer great possibilities, and in 1916 a large area was let to the Surinam Extract Company, whose purpose is the extraction of tanning material from mangrove bark.

(c) *Land Tenure*

Land tenure does not call for any detailed remark. Most of the larger plantations date back one or two centuries and are freeholds. As has already been said, many of these have been abandoned by their former owners, and the occupation by squatters of derelict estates has necessitated a general measure for the verification and consolidation of the title to real property in the colony. The Government grants small holdings on terms either of lease or of sale. Within the limits of the settlements holdings are leased, at first for a peppercorn and afterwards for a more substantial rent. Outside the settlements plots of land are granted free of annual charges but subject to improvement conditions. If the conditions are fulfilled, the freehold is conveyed to the occupier. If they are not fulfilled, the occupier may be left in possession as a tenant, or, in case of gross neglect of the conditions, may be evicted. Balata-collecting, timber-getting, and gold-mining areas are held for terms of years under concession from the State.

(3) FISHERIES

The sea, the rivers, and the swamps of Surinam abound in fish, but as an industry fishing has no importance, and foreign fish is imported in large quantities. According to the official returns, 183 persons and some 40 boats, most of them stationed at Paramaribo, were occupied in fishing in 1915. Fishing alongshore and in the mouths of the rivers is carried on for the most part in large open boats, manned by 8 or 10 men, working with nets and trawls; but line-fishing is also practised. An attempt to develop deer

sea fishery has been made by a company formed at Paramaribo in 1909-10, which acquired two schooners, and sent them to work on the banks about 70 miles off the coast; they carried a supply of ice sufficient for 10 or 12 days, and on their return to port their catch was transferred to the refrigerating chamber attached to the ice factory at Paramaribo. Presumably, however, the business was unremunerative, for the company discontinued it in 1913. Boschnegers, Indians, and others fish from small boats and canoes in the upper rivers.

(4) MINERALS

Gold is found over large areas in the colony, and forms an important item in the export trade, the amount annually shipped overseas being worth about £100,000, or 20 per cent. of the total exports. After the failure of several attempts to find gold in the seventeenth and eighteenth centuries, nothing further was done until about 1860 a prospector trained in the Australian bush brought in samples which, although in themselves of small value, pointed to the existence of a field; but the company which he formed in New York failed, like its predecessors, and its concession was declared forfeit. Meanwhile, however, supported by the course of events across the Marowynne, where Cayenne was becoming a gold producer, belief in the mineral possibilities of Surinam was growing; licences for exploration and concessions were being applied for; and in 1875 export opened modestly with the shipment of 79 ounces of the metal. From that time till the end of 1916 the total production has been 1,013,034 ozs., of an estimated value of £3,616,119. The years 1905 to 1909 have been the most prolific, and the highest production recorded occurred in 1908, when the output was 38,895 ozs., worth £138,116. Since then production has on the average been some 10,000 ozs. a year less than this figure.

The industry has passed through various phases. Here, as in the other Guianas, the largest proportion

of the gold won is obtained by alluvial washing on the placers by the "sluice" and "tom" methods. In the alluvial deposits gold is found in the channels of present or former streams, and is usually contained in a layer of clay under pebbles and gravel. This clay is puddled in long or short wooden boxes, known as sluices and toms respectively, where the stones are picked out, the dirt washed away, and the gold captured. In Surinam these methods of extraction were followed exclusively until 1897, but about that time some of the hand-worked placers began to be unproductive, and many of them were taken over by companies, often at high prices, with a view to their exploitation by the mechanical arts of excavating, quartz milling, and dredging. Of these companies nearly all failed, handicapped as they were by over-capitalisation, the burden of an excessive purchase price, the difficulties and expense of transport, and inexpert and incompetent management. In the opinion of a trustworthy authority, the holder of an official engineering post in the country and the author of a learned work upon the industry, mechanical working is unsuited to most alluvial deposits in Surinam, the formation of the strata not admitting of its profitable application, though hand-working might perhaps be aided by a mechanical extraction of the soil.

As a result of the liquidation of most of the companies the industry entered upon a new phase in 1902, the men who had been employed as managers and workmen taking underleases from the owners on the footing of paying them a percentage—usually 15 per cent.—of the value of their output; and in a short time all but a few placers were in the hands of these men, who correspond in Surinam to the "pork-knockers" of British Guiana and the "marauders" of Cayenne. That the consequences for the industry were important is apparent from the figures of production, which, after being on the downward grade for years, reached their zenith within a few years of the establishment of the new regime. Yet it may be questioned whether the

altered circumstances of the industry are such as to promote its permanent welfare. The man who is his own employer works more cheaply than the company and is more industrious than the company's salaried servants; he can thus wring a profit from less promising ventures, which the best conducted company fails to handle with advantage; but he lacks capital, and it is doubtful how far the circumstances of the gold-mining industry in Surinam admit of a hand-to-mouth existence devoid of capital reserves. The small man cannot stand the strain of failure, or even of hope deferred. If, as may well happen, it is so wet that his diggings are flooded out or so dry that he has no water for gold washing, his takings vanish, but his expenses continue. When his claim is worked out he must prospect for a new one, which is costly, and on new ground success, even when it is won, is to be attained only after expense and delay. Small though his demands are, he is seriously embarrassed by the difficulty and cost of transport. A man who has a prosperous concern will lay in ample stocks of provisions and supplies when the rivers are in water and transport is at its cheapest, but the credit of the small man does not permit of this; he must buy as and when he can pay; and often he is obliged to bring up his supplies in unfavourable conditions, which greatly enhance the cost.

By these difficulties of transport the whole industry is, indeed, dominated. Beyond the limited gold zones which are now served by the railway it is not only almost impossible to deliver machinery to the placers, but the mere carriage of men, tools, and food is often a cause of anxiety and always an occasion of expense. In normal conditions the journey by river from Paramaribo to the more distant goldfields takes from 9 to 14 days, and is as long again in times of drought. For every man at work on these fields about half a ton of provisions, implements, &c., must be carried up, at a cost of at least £4 or £6 a ton. From figures published by the *Compagnie des Mines d'Or de la Guyane*

Hollandaise, operating on the Awa, and then employing 260 hands, it appears that transport expenses amounted to 13 per cent. of the value of total production over a period of four years. If to this be added the local and superficial occurrence of the precious metal, careless prospecting, a labour force that cannot be depended upon, inexperienced management, an injudicious selection of machinery, and climatic conditions inimical to scientific enquiry in the bush, the failure of many mining ventures will occasion no surprise. Anywhere in Guiana a sensational "find" is at any time possible, and future discoveries may transform the whole position; but the prospects of the gold-mining industry in Surinam cannot be thought to be very bright in the conditions which now prevail.

The total production of the different districts since 1880 has been approximately as follows:—Upper Surinam, 474,413 ozs.; Lawa (Awa), 201,559 ozs.; Saramacca, 200,217 ozs.; Marowynne, 104,478 ozs.; and other districts, 200 ozs.¹

Mining is carried on under concession on land belonging to the State. Rents were originally fixed at 10c. a hectare (rather less than 1*d.* an acre), but were revised in 1882, being then raised to 25c. a hectare (about 2*d.* an acre) in the third and fourth years, and afterwards to 50c. A tax of 5 per cent. on gold exported, imposed in 1879, was in 1894 converted into a due of 7c. a gramme on gold won. Various regulations are in force relating to the grant of concessions and to dealings in gold. The minimum area of a concession is fixed at 200 hectares (about 500 acres), but there is no maximum limit, and this circumstance has favoured large speculative holdings. Exploration licences, previously issued free, were subjected to a due of 1c. a hectare (about 1*d.* for 12 acres) in 1903. In that year it was also decreed that thenceforward concessions and licences might be acquired only by Dutch subjects, by residents in Holland and

¹ *Koloniale Verslagen and Encyclopædie van Nederlandsch West-Indië.*

Surinam, and by companies established in one or other of those countries.

Bauxite.—In 1917 a company to search for and work bauxite was established under the name of the *Suri-naamsche Bauxite Maatschappij*. The company has acquired a large concession and taken tentative steps. Important deposits are known to exist on the Cottica, and work on a small scale is in progress at Mungo. In other districts where prospecting has been carried on the results have so far been negative.

Other Minerals.—Diamonds have not yet been found in payable quantities in Surinam, though the conditions resemble those of British Guiana, in which the stones are found. No other stones of commercial value seem to exist, and iron, lead, and manganese do not occur in workable deposits. Some quicksilver and cinnabar ores have been discovered on the Marowyne.

(5) MANUFACTURES

Circumstances have been adverse to the development of manufactures, which are few and unimportant. An agricultural colony from its earliest days, Surinam has offered few opportunities for the creation of industries unconnected with agriculture; little or no skilled labour has been available; the competition of Europe and the States has had to be faced; and industrial development has received no encouragement. Paramaribo has a small but well-found ice factory, which lets space in its refrigerator for the storage of meat, fruit, fish, &c., and is interested in the sale of iced drinks in the city. There are eight factories of lemonade and aerated beverages, seven at Paramaribo and one at New Nickerie; three small match factories, four printing presses, one cigarette factory, a gas works, two small soap factories, three steam bakeries, and two tanneries. Two of the match factories are worked by steam in the approved modern style, and their match stems and boxes, made of colonial woods, are said to

possess all the good qualities of the European article; but the demand is not very great, and, to preserve its relation to supply, operations have to be suspended from time to time. The gas works, started in 1909, belong to the Nederlandsch-Indische Gasmaatschappij of Rotterdam, and have been worked with good results. The streets of Paramaribo are now lighted by their product, and the number of their subscribers is increasing. The soap factories have been at much pains to produce a sound article, but they have not yet appreciably affected the import of soap. Of the tanneries, one is a small affair at New Nickerie, the other is a recent revival of a former venture which failed. This tannery was first started in 1903, but came to grief because the tanning material it employed—mangrove bark—imparted a red tinge to the leather, which could not then compete with imported leather. The product was in itself good, however, and the high prices occasioned by the war have prompted a repetition of the experiment. Straw hat plaiting is another recent venture. A course of instruction in the art was begun by private enterprise in 1913, and the ten pupils with whom the course opened had increased to fifty by the end of the year. Straw imported from Curaçao being disappointing, a large number of plants yielding a good straw have been put out in the colony, and it is hoped that straw hats may become an article of export in a not too distant future.

(C) COMMERCE

(1) DOMESTIC

Domestic commerce is for the most part in the hands of Portuguese, Chinese, British Indians, and Armenians, and the participation therein of the native population is undergoing a continuous decline. Unlike their trade competitors of other nationalities, the Chinese work in unison to a considerable extent, the town businesses being worked in intimate association

with the shops on the estates, which are rented from the proprietors, and frequently enjoy a monopoly of the trade of the locality. The character of the general commerce of the country has been deeply affected by the establishment of direct and rapid communication with Europe and the United States. "In the days of sailing ships, or at any rate of irregular services," said the report of a Commission, "the import houses of the Colony were obliged to hold large stocks, but this has been profoundly modified by the regular steamship connection, which has promoted both tenders by agents and small deliveries. Real import houses, exclusively engaged in wholesale trade, have ceased to exist. The typical concern is now a shop with branches operating in different quarters of the capital or in different places in the colony. It gets its goods direct from Europe or North America, and retails them afterwards, making semi-wholesale sales to small shopkeepers and tradesmen. In the shops there is relatively little specialisation; shops for groups of articles are found here and there, but on the whole nondescript collections of goods are offered for sale in the mass."¹ A recent annual report² adds that a pronounced tendency is apparent for the import trade to pass into the hands of foreign manufacturers, the consequence of the appearance of travellers and agents, who book orders direct, a process not entirely advantageous to the trade of the country. It has sometimes been complained that all the capital is in the hands of a few people, who strangle competition; that there is much direct importation by the Government and others, to the detriment of the Surinam merchant; and that the latter, who is obliged to buy on short credit in Europe, is expected to give long credit to his colonial customers.

In 1915 there were 33 exporting houses. Of these, 12 were companies, 5 were firms, 2 were estates, and 14 were individuals. The companies included such well-known concerns as the Surinaamsche Bank, the

¹ See *Encyclopedie van Nederlandsch West-Indië*, p. 348.

² *Koloniaal Verslag*, 1914.

Curaçaosche Handelmaatschappij, and the Nederlandsche Handelmaatschappij.

There is no chamber of commerce in the ordinary sense of the term, but about ten years ago the Governor constituted a semi-official Kammer van Koophandel en Fabrieken to advise the Government on commercial questions.

(2) FOREIGN

(a) *Exports*

Quantities and Values.—Exports have shown a fairly steady expansion during the period 1900-14, the annual averages for the periods 1900-4, 1905-9, and 1910-14 being £383,464, £461,045, and £668,281 respectively (see Appendix, Table II). At the beginning of the century they were declining, and fell from £461,738 in 1900 to £307,702 in 1904; but the downward movement was then arrested, and from that time till the outbreak of war they expanded regularly with the exception of 1912, a year of drought. On the average of the whole period they are less than the imports by about £70,000 a year, but they have exceeded them on the average of the last quinquennial period.

The principal articles exported are sugar, which accounts for $28\frac{1}{2}$ per cent. of the total exports on the average of the period 1900-14; balata, 25 per cent.; gold and cacao, each 20 per cent.; and coffee, rum, bananas, and timber, each between 1 and 2 per cent. Sugar, balata, coffee, bananas, and timber show increases, while cacao has diminished, and gold and rum have fluctuated. Among the less important exports increases have occurred in hides and isinglass, and in recent years there has been a small export of maize and rubber. Agricultural products account for 54 per cent. of the total exports, forest products for 26 per cent., and mining products for 20 per cent. The quan-

tities and values of the principal exports will be found in Table III of the Appendix.

Countries of Destination.—The United States, which have taken 41 per cent. of the export trade on the average of the years 1900-14, are the colony's largest customer; Holland has taken 38 per cent.; British Possessions have taken $16\frac{1}{2}$ per cent.; and France has taken $3\frac{1}{2}$ per cent. (see Appendix, Table V). Exports to the United States are, in fact, larger than they appear in the official statistics, because a part, undetermined but not inconsiderable, of the exports to British Guiana are passed on to America. There has been a small relative increase in exports to Holland, and a small relative decline in exports to the United States. Particulars of the export to the several countries are given in the Appendix, Table VI.

(b) Imports

Quantities and Values.—During the period 1900-14 the mean of the imports has been £576,806. A slight tendency to increase is apparent from the annual averages of the three quinquennial periods, namely, £552,211, £566,448, and £611,760 (see Appendix, Tables II and IV).

The chief articles imported are cotton, woollen, and linen manufactures, which account for 14 per cent. of the total imports; flour and grain, 9 per cent.; meat, bacon, and tinned provisions, $8\frac{1}{2}$ per cent.; rice, 7 per cent.; beer, wines, and spirits, 6 per cent.; machinery, iron, and iron manufactures, 6 per cent.; gold, 4 per cent.; groceries, 4 per cent.; haberdashery, boots, and hats, 4 per cent.; and oils and butter, each 3 per cent. The imported gold comes from French Guiana, which ships some of its output through the Dutch colony. The import is increasing in the case of cottons, &c., flour and grain, and oils; is decreasing in the case of liquors and gold; and is stationary or fluctuating in the case of the other imports mentioned.

Countries of Origin.—The colony buys most from Holland, which has supplied $56\frac{1}{2}$ per cent. of the im-

ports on the average of the period 1900-14; the United States have supplied 23 per cent.; British Possessions have supplied 14 per cent. (the United Kingdom 5 per cent., and British Guiana 9 per cent.); and French Possessions (mainly French Guiana) have supplied 5 per cent. Trade with Holland, the United States, and British Guiana shows actual and relative increase; with the United Kingdom and French Guiana it shows actual and relative decline (see Appendix, Table V). It is to be observed that the official statistics relate only to the countries whence goods are shipped, and are therefore not a true indication of countries of origin. Thus, a large proportion of the goods shipped from, and so credited to, the Netherlands, especially haberdashery and cottons, is of British or German manufacture; the dried and salt fish credited to the United States is largely of British North American origin; and much American trade is credited to British Guiana and West Indian colonies, where trans-shipment is effected. The decline in the trade with the United Kingdom is more apparent than real, the discontinuance of a direct steamship connection with Great Britain having enlarged shipments through Holland and British Guiana; but the trade does seem to be diminishing in fact, there being an increasing demand in Surinam for shoddy goods which Great Britain does not readily supply. As in the case of exports, the share of British Guiana in the import trade is mainly a matter of trans-shipment, and the imports from French Guiana are gold and balata sent in for despatch to Europe. Particulars of the imports from the several countries are given in Table VII.

(c) *Customs and Tariffs*

For the purposes of the import dues imposed in the colony goods fall into three classes, namely, goods charged with *ad valorem* duties, goods charged with specific duties, and goods exempted from duty. The normal duty is 10 per cent. *ad valorem* on the net in-

voice value of the goods, augmented by 20 per cent. Specific duties are moderate in amount in the case of foodstuffs, groceries, &c., but are larger—and especially so since the increase in 1907—in the case of such articles as liquors, tobaccos, matches, opium, and gunpowder. The free list includes machinery; building materials; base metals; coal; cattle, asses, and mules; raw materials for agriculture and industry, such as manure, plants and seeds, coarse salt, sacks, and staves for vats; and vessels and boats.

(D) FINANCE

(1) *Public Finance*

The local revenue is derived from taxes on property, the gold output, &c.; rents and royalties payable under concessions; import and excise dues and some other indirect taxation; and the receipts of the postal, railway, and steamer services. Deficits in the colonial budget are made good by the home Government with subventions, the amount of which varies from year to year, as both the revenue and the expenditure of the colony fluctuate; on the average of the years 1900 to 1908 subventions averaged £45,526 annually. During that period the average annual revenue and expenditure were as follows :—

(a) <i>Revenue</i>				£
Import duties	...	...	...	97,019
Excise, &c.	...	...	...	14,638
Rents and dues under concessions, &c.	...	...	...	14,510
Railway and steamer services' receipts	...	...	...	11,963
Property taxes, &c.	...	...	...	7,779
Tax on gold	...	...	...	5,445
Miscellaneous	...	...	...	114,630
Subvention	...	...	...	45,526
Total				£311,510

(b) Expenditure

	£
Railway, steamer service, light-ships, telephones, &c. ...	74,991
Public works	71,374
Education, relief, medical service, &c.	55,610
Financial administration ...	35,089
Justice and police	29,600
Pensions, half-pay, &c. ...	20,579
Government secretary, Colonial States, &c.	15,391
Immigration and colonization	5,890
Miscellaneous	2,986
Total	£311,510¹

(2) Currency

The currency of Surinam is the same as that of Holland, that is to say, 12 florins or gulden = £1 at par, 1 fl. = 1s. 8d., and 5 c. = 1d. The metric system is in general use, but locally the Rhyndland foot (=12 $\frac{3}{8}$ English inches) and the Flemish ell (=27 $\frac{1}{8}$ English inches) are in use.

(3) Banking

The Surinaamsche Bank, a private institution, was founded in 1865, with a capital, in fully-paid shares of 875 fl. and 175 fl., of one million florins, which in consequence of losses was reduced to 700,000 florins in 1877. The head office of the bank is at Amsterdam, and there is a local board at Paramaribo—an arrangement which augments administrative expenses. Nevertheless, their results have been favourable on the whole, and except in their early days they have paid good dividends.² On December 31, 1914, their paid-up capital was 700,000 fl., their reserve 300,000 fl., their note circulation 1,577,000 fl., and they held 1,211,049 fl. on deposits, current accounts, &c.

¹ *Koloniale Verslagen.*

² Nearly 8 per cent. on the average of the years 1908-14, according to the *Banking Almanac*, 1916.

The savings bank started by the Surinaamsche Maatschappij van Weldadigheid (Surinam Charity Organisation Society) was the first recorded attempt to encourage thrift in the colony by means of a savings bank, but its career was not a long one. It was followed by the Koloniale Spaarbank, established in 1879, and put into liquidation on April 1, 1904, when the Koloniale Postspaarbank began operations. Both these institutions have done useful work and promoted the best interests of the country.

There are several small loan banks which assist the small farmer, but there is no proper agricultural credit bank, and all endeavours to found one have so far failed. The desirability of such an institution has been authoritatively asserted for the purpose of organising credit, of giving short-term loans to estates and business houses and promoting co-operation among small holders, and of acting as a central bank for the various co-operative loan institutions. When the Surinam budget was under discussion in the Second Chamber of the States-General in 1917, the belief was expressed that the banking system of the colony was in need of reform, and a motion was carried advocating a refusal to renew the expiring privileges of the Surinaamsche Bank, in order that the field might be clear for the organization of a satisfactory system of agricultural credit banks in the colony.

NOTE

The present condition and future prospects of Surinam are further discussed in *Introduction to the Guiana Colonies*, No. 134 of this series, pp. 14-16, in the course of a comparative sketch of the three Guianese colonies.

APPENDIX

(A) EXTRACTS FROM TREATIES

I.—EXTRACT FROM THE DUTCH OFFICIAL *STAATSBLAD*.

Minute explanatory of the boundary treaty between France and the Netherlands concerning the boundary between French and Dutch Guiana:—

“ In 1861 a mixed Dutch-French Boundary Commission was sent up the River Marowynne (Maroni) to examine its course. It arrived, after a very careful examination, at the point where the Marowynne is formed by the united waters of the Lawa and the Tapanahuni, at the conclusion that the Lawa is the main stream; but further up-stream, where the Lawa in its turn is formed by the united waters of the Litani and the Marowini Creek, it decided that the Litani was the main stream. The first-named conclusion was confirmed by the arbitral decision of His Majesty the Czar of Russia, May 13/25, 1891. As regards the second conclusion, later researches have caused doubts to arise as to its correctness. Meanwhile the question whether the Litani or the Marowini Creek is to be regarded as the main stream was the subject of an exchange of views between the French and Dutch Governments, and so was not submitted to the decision of the Arbitrator.”

II.—TREATY OF SEPTEMBER 30, 1915.¹

A joint conference was held at The Hague, April 25 to May 13, 1905, which drew up the project of a treaty, which assigned the Litani as the boundary in the upper river, and in the lower river the *thalweg*. This, again, did not give full satisfaction, as the *thalweg* followed at one time the right, at another time the left, bank of the river.

Finally, a treaty was drawn up, September 30, 1915, and ratified September 16, 1916, which settled all points of dispute.

“ ARTICLE 1^{er}.—Sur la partie du cours du fleuve Marowynne (Maroni) comprise entre une ligne ouest-est tangente à l'extrémité septentrionale de l'île néerlandaise Stoelman, dite Stoelmanseiland, au Sud, et une ligne ouest-est tangente à l'extrémité méridionale de l'île française Portal, au Nord, la frontière entre les colonies de Suriname et de la Guyane française est constituée par la ligne médiane des eaux ordinaires.

“ En conséquence, les îles situées dans cette partie du fleuve sont territoires néerlandais ou français, selon qu'elles sont situées en totalité ou du moins dans leur plus grande partie à l'ouest ou à l'est de la ligne médiane.

¹ *Staatsblad* for 1916, Nos. 304, 481.

“ Les îles Langa-Tabiti et Pacea-rebo ou Blakkerebo sont en totalité territoires néerlandais et l'île Guidala est en totalité territoire français. Ces îles ne sont donc pas soumises à la règle énoncée à l'alinéa précédent.

“ Les deux Gouvernements contractants s'engagent à respecter les droits acquis par les nègres Bosch et les Indiens habitant les îles du fleuve.

“ ARTICLE 2.—La navigation est libre dans les eaux de la partie du fleuve Marowyne (Maroni) délimitée conformément à l'article premier.”

(B) REPORT OF THE SURINAME STUDIE-SYNDICAAT

NOTE.—The Suriname Studie-Syndicaat, founded at The Hague in 1916, appointed a Commission to report upon the Colony. The members left Holland in February, 1919, and returned in the following July. Their report¹ (preface dated September, 1919) recommends that the Netherlands should lend money to the Colony for the following purposes:—

1. The improvement of roads, canals, &c.;
2. The immediate importation of immigrants for the plantations, which are retrogressing rapidly, owing to the shortage of labour;
3. The promotion of immigration and colonization by recruitment in Java; by establishing steamship lines especially for the transport of emigrants; and by the construction of irrigation works in districts intended for the settlement of immigrants;
4. The equipment of a modern Department of Agriculture, Industry and Commerce;
5. The extension of communications (in the Colony and with other countries) by means of roads, canals, wireless telegraphy, &c.;
6. The improvement of hygienic conditions.

The Commission considers that if the above-mentioned action is accompanied by:—

- (a.) The restoration of forsaken plantations to the State domains;
 - (b.) The encouragement of foreign capital;
 - (c.) A modification of the method of exploiting plantations;
 - (d.) An extension of the capital of the Plantation Bank;
- the Colony of Suriname will become financially independent of the home country in a relatively short time.

¹ *Suriname Studie-Syndicaat. Rapport der Studie-Commissie naar aanleiding van haar bezoek aan Suriname. Rotterdam, [1919].*

(C) STATISTICS

TABLE I.1.—DISTRIBUTION BY DISTRICTS OF AGRICULTURAL PRODUCTION, 1915

District.	Sugar.	Molasses.	Rum.	Cacao.	Plantains and Bananas.	Coffee.	Rubber.	Maize.	Rice.	Vegetables
Nickerie ..	Tons. 3,901	Galls. ..	Galls. 155,936	Cwt. 2,000	Bunches. 29,500	Cwt. 33	lbs. ..	Cwt. 234	lbs. 3,306,900	Cwt. 975
Coronie ..	..	..	..	678	30,200	27	..	189	4,189	266
Lower Saramacca ..	..	..	..	3,864	73,600	504	..	5,098	1,684,755	628
Upper Saramacca ..	..	..	..	81	3,100	2	..	173	20,062	110
Lower Surinam ..	..	..	..	3,072	54,800	1,456	2,022	3,553	1,846,573	1,756
Lower Para... ..	..	..	..	642	73,500	21	1,362	13,766	2,384,010	20,317
Upper Para ..	..	..	..	1,267	63,900	461	2,888	1,976	487,437	5,186
Upper Surinam ..	..	..	..	1,551	67,700	1,729	512	2,120	620,154	5,894
Lower Commewyne ..	8,756	23,980	202,576	12,268	173,000	7,515	12,357	2,469	995,818	3,645
Upper Commewyne ..	..	..	..	518	15,700	74	220	922	65,477	396
Cottica ..	1,872	660	14,058	2,910	139,300	193	661	6,284	273,150	678
Marowynne ..	..	..	..	..	2,100	..	..	22	2,205	39
Total ..	14,529	24,640	372,570	28,851	726,400	12,015	20,022	36,806	11,640,730	39,890

¹ *Kolonial Verslag*, 1916. Conversion at the rate of 1,015 kilogrammes to 1 ton, and 100 litres to 22 gallons.

TABLE II.¹—EXPORTS, IMPORTS, AND TOTAL VOLUME OF TRADE

—	1900.	1901.	1902.	1903.	1904.
	£	£	£	£	£
Exports ..	461,738	447,133	343,060	357,688	307,702
Imports ..	513,884	589,819	515,256	525,469	616,625
Total ..	975,622	1,036,952	858,316	883,157	924,327

—	1905.	1906.	1907.	1908.	1909.
	£	£	£	£	£
Exports ..	369,311	395,797	490,714	502,781	546,622
Imports ..	546,443	522,765	575,300	586,404	601,328
Total ..	915,754	918,562	1,066,014	1,089,185	1,147,950

—	1910.	1911.	1912.	1913.	1914.
	£	£	£	£	£
Exports ..	695,454	766,806	551,661	788,149	539,337
Imports ..	618,725	689,466	624,505	592,785	533,321
Total ..	1,314,179	1,456,272	1,176,166	1,380,934	1,072,658

Annual Averages.

—	1900-04.	1905-09.	1910-14.	Mean.
	£	£	£	£
Exports ..	383,464	461,045	668,281	504,262
Imports ..	552,211	566,448	611,760	576,806
Total ..	935,675	1,027,493	1,280,041	1,081,068

¹ *Koloniale Verslagen.* Conversion at the rate of 12 fl to £1.

TABLE III.—PRINCIPAL ARTICLES OF EXPORT

		Annual Average 1900-04.	Annual Average 1905-09.	Annual Average 1910-14.	Mean 1900-14.	Per- centage.
Sugar,	{ tons	8,068	8,611	9,906	8,862	
first grade	{ £	90,772	133,421	177,813	134,002	26·57
Sugar,	{ tons	908	882	817	869	
second grade	{ £	7,134	10,072	13,014	10,073	1·96
Balata	{ lbs.	616,565	857,495	2,040,180	1,171,414	
..	{ £	47,559	67,736	258,654	124,650	24·71
Cacao	{ cwt.	45,456	33,041	31,622	36,706	
..	{ £	134,490	94,522	77,954	102,322	20·29
Gold	{ ozs.	19,720	35,909	26,264	27,298	
..	{ £	83,725	127,512	93,951	101,730	20·17
Coffee	{ cwt.	3,767	2,795	4,215	3,592	
..	{ £	5,718	6,848	13,935	8,834	1·75
Rum	{ galls.	163,240	124,982	185,834	158,019	
..	{ £	9,120	6,155	9,515	8,263	1·64
Plantains	{ bunches ²	70	173,370	293,179	155,540	
& Bananas	{ £	2	7,304	10,771	6,026	1·19
Timber	..	£ 3,683	5,429	7,448	5,520	1·09
Hides	..	£ 618	966	1,407	997	·20
Dried Bananas	{ cwt.	—	363	1,239	534	
..	{ £	—	352	1,310	554	·19
Rubber	{ lbs.	—	—	3,631	1,210	
..	{ £	—	—	716	239	·04
Isinglass	{ lbs.	2,277	4,409	4,079	3,588	
..	{ £	129	250	231	203	·04
Other Exports	£	507	478	1,562	849	·16
Total Exports	£	383,464	461,045	668,281	504,262	100·00

¹ *Kolonials Verslagen*. Conversion at the following rates: 12 fl. to £1; 1,015 kilogrammes to 1 ton; 31·1035 grammes to 1 ounce troy; and 100 litres to 22 gallons.

² Also 56 cwt. of bananas in the period 1905-1909.

TABLE IV.¹—PRINCIPAL ARTICLES OF IMPORT

	Average Annual Value, 1900-04.	Average Annual Value, 1905-09.	Average Annual Value, 1910-14.	Mean, 1900-14.	Per- centage.
	£	£	£	£	
Cotton, Linen and Woollen Manufac- tures	79,964	78,993	87,688	82,215	14·25
Flour and Grain ..	44,768	52,749	64,821	54,112	9·38
Meat, Bacon and Tinned Provisions	49,465	50,338	48,231	49,344	8·55
Rice.. ..	36,506	37,626	44,960	39,697	6·89
Machinery and Iron Goods	34,989	36,069	36,769	35,942	6·24
Wine, Spirits and Beer	36,973	35,292	34,664	35,643	6·19
Raw Gold	35,106	23,734	15,497	24,779	4·29
Groceries, &c. ..	21,830	23,471	27,824	24,375	4·22
Haberdashery, Boots and Hats	18,462	22,747	28,403	23,204	4·02
Oils	16,152	17,779	24,125	19,352	3·35
Butter	18,234	17,479	19,520	18,411	3·20
Cement, Paints and Fireproof Roofing	15,351	14,301	15,048	14,900	2·58
Tobacco and Cigars	10,423	10,372	11,105	10,634	1·84
Bullion and Specie	11,275	8,844	11,212	10,444	1·81
Fish	9,951	8,624	7,892	8,822	1·53
Manures and Chemi- cals	8,015	8,326	9,781	8,708	1·51
Live Stock	5,858	7,951	10,772	8,194	1·42
Hides and Leather..	7,399	7,447	9,009	7,952	1·38
Bread, Biscuit, &c...	5,417	7,473	7,657	6,849	1·19
Potatoes	5,028	5,849	6,314	5,730	·99
Timber, &c... ..	5,587	2,964	3,433	3,995	·69
Paper	3,103	3,561	4,643	3,769	·65
Sacks	3,375	3,614	4,179	3,723	·65
Coal and Coke ..	2,639	3,718	4,520	3,626	·63
Earthenware ..	3,213	2,801	2,276	2,763	·48
Other Imports ..	63,128	74,326	71,417	69,623	12·07
Total Imports ..	552,211	566,448	611,760	576,806	100·00

¹ *Koloniale Verslagen.* Conversion at the rate of 12 fl. to £1.

TABLE V.—TRADE WITH THE PRINCIPAL COUNTRIES, 1900-1914

	EXPORTS.					IMPORTS.					TOTAL TRADE.	
	Average Annual Value, 1900-04.	Average Annual Value, 1905-09.	Average Annual Value, 1910-14.	Mean.	Per-centage.	Average Annual Value, 1900-04.	Average Annual Value, 1905-09.	Average Annual Value, 1910-14.	Mean.	Per-centage.	Mean.	Per-centage.
Dutch Possessions—												
Holland ..	137,598	182,333	263,940	194,623	38.35	292,081	336,442	348,629	325,717	56.47	£ 520,340	48.13
Curaçao ..	2,704	2,585	2,607	2,632	.55	1,604	1,536	798	1,246	.22	3,378	.36
United States ..	183,928	179,303	241,251	201,461	41.00	115,676	128,781	150,593	131,684	22.83	333,145	30.82
British Possessions—												
British Guiana ..	34,429	63,461	84,782	60,891	11.90	33,986	47,961	73,846	51,931	9.00	112,822	10.44
United Kingdom ..	15,925	8,417	50,724	25,022	4.45	58,192	17,392	9,393	25,326	4.91	53,348	4.94
Barbados ..	389	421	493	434	.10	3,084	891	1,400	1,792	.31	2,226	.20
Trinidad ..	—	159	162	107	—	1,405	713	1,050	1,068	.18	1,165	.11
French Possessions—												
French Guiana ..	47	24	126	66	—	37,354	26,519	18,322	27,398	4.75	27,464	2.54
France ..	7,724	24,098	19,919	17,247	3.30	2,418	1,399	1,692	1,836	.32	19,083	1.76
Other Countries ..	720	344	4,274	1,779	.35	6,411	5,014	6,028	5,818	1.01	7,597	.70
Total ..	383,464	461,045	668,281	504,262	100.00	552,211	566,448	611,760	576,806	100.00	1,081,068	100.00
Total, Dutch Possessions ..	140,302	184,918	266,547	197,255	38.90	293,685	337,778	349,437	326,963	56.69	524,218	48.49
" United States ..	183,928	179,303	241,251	201,461	41.00	115,676	128,781	150,593	131,684	22.83	333,145	30.82
" British Possessions ..	50,743	72,458	136,101	86,454	16.45	96,677	66,957	85,689	83,107	14.40	169,661	15.69
" French Possessions ..	7,711	24,122	20,345	17,313	3.30	39,772	27,918	20,014	29,234	5.07	46,547	4.30
" Other Countries ..	720	344	4,274	1,779	.35	6,411	5,014	6,028	5,818	1.01	7,597	.70
Total ..	383,464	461,045	668,281	504,262	100.00	552,211	566,448	611,760	576,806	100.00	1,081,068	100.00

1 *Koloniale Verslagen*. Conversion at the rate of 12 fl. to £1.

TABLE VI.¹—EXPORTS: COUNTRIES OF DESTINATION

	Average Annual Value, 1900-04.	Average Annual Value, 1905-09.	Average Annual Value, 1910-14.	Mean, 1900-14.	Percentage of Total Export of Commodity.
Holland—	£	£	£	£	
Gold	82,217	108,952	82,120	91,096	89·54
Balata	38,237	57,746	161,472	85,818	68·04
Sugar	6,028	4,205	7,331	5,855	4·06
Cacao	7,126	6,232	3,813	5,724	5·59
Timber	2,387	3,310	3,256	2,984	54·06
Other Exports ..	1,603	1,888	5,948	3,146	—
Total Exports..	137,598	182,333	263,940	194,623	—
United States—					
Cacao	123,487	80,585	70,491	91,521	89·44
Sugar	53,143	81,662	100,027	78,277	54·38
Balata	1,096	1,788	47,296	16,727	13·42
Coffee	5,147	6,756	11,914	7,939	89·87
Bananas	1	7,285	9,777	5,688	94·39
Other Exports ..	1,054	1,127	1,746	1,309	—
Total Exports..	183,928	179,203	241,251	201,461	—
United Kingdom—					
Sugar	6,511	3,562	21,094	10,389	7·22
Balata	1,019	180	26,031	9,060	7·27
Rum	4,388	312	1,987	2,229	27·00
Cacao	3,014	770	44	1,276	1·24
Other Exports ..	993	3,643	1,568	2,068	—
Total Exports..	15,925	8,417	50,724	25,022	—
British Guiana—					
Sugar	32,111	53,595	62,366	49,357	34·29
Balata	465	6,255	17,130	7,950	6·38
Rum	1,791	3,488	4,901	3,394	41·06
Other Exports ..	62	123	385	190	—
Total Exports..	34,429	63,461	84,782	60,891	—
France—					
Gold	278	14,478	10,558	8,438	8·29
Balata	6,304	1,818	3,516	3,879	3·11
Cacao	1,010	845	3,417	3,757	3·67
Timber	120	846	1,550	839	15·20
Other Exports ..	12	111	878	334	—
Total Exports..	7,724	24,098	19,919	17,247	—

¹ *Koloniale Verslagen.* Conversion at the rate of 12 fl. to £1.

TABLE VII.¹—IMPORTS: COUNTRIES WHENCE SHIPPED

	Average Annual Value, 1900-04.	Average Annual Value, 1905-09.	Average Annual Value, 1910-14.	Mean, 1900-14.	Percentage of Total Import of Commodity
Holland—	£	£	£	£	
Cottons, Linens and Woollens	41,416	58,620	58,728	52,922	64·37
Rice	35,162	38,094	44,525	39,261	98·89
Wines, Spirits and Beer	33,626	33,296	31,564	32,829	92·10
Machinery and Iron Goods	17,899	18,676	24,331	20,302	56·48
Groceries, &c. ..	16,216	17,132	20,041	17,797	73·01
Butter	16,757	17,040	18,464	17,420	94·13
Haberdashery, Boots and Hats	11,987	15,943	19,256	15,729	67·78
Tinned Provisions	8,019	8,708	9,292	8,673	56·23
Oils	7,665	8,476	8,875	8,339	43·09
Tobacco and Cigars	7,876	7,901	8,987	8,255	77·63
Leather	7,088	6,922	8,188	7,399	93·04
Paints and Varnish	6,917	6,416	6,431	6,588	93·73
Grain	4,523	6,267	6,415	5,735	39·67
Potatoes	4,874	5,774	6,097	5,582	97·42
Chemicals	4,033	3,908	3,668	3,869	67·06
Fireproof Roofing	3,087	3,761	4,152	3,667	78·40
Paper	2,786	3,222	3,957	3,322	88·14
Bread, &c., and Pastry, &c.	2,109	3,361	3,845	3,105	45·33
Earthenware ..	2,929	2,620	2,172	2,574	93·16
Sacks	2,216	2,362	3,105	2,561	68·80
Other Imports ..	54,886	67,943	56,536	59,788	—
Total Imports..	292,081	336,442	348,629	325,717	—
United States—					
Flour and Grain..	29,539	40,374	48,615	39,510	73·01
Meat, Bacon and Tinned Provisions	35,528	38,554	32,409	35,497	71·92
Oils	7,607	8,760	14,050	10,139	52·39
Machinery and Iron Goods	9,768	5,838	6,983	7,530	20·95
Fish	5,294	6,451	7,116	6,287	71·26
Cottons, Linens and Woollens	3,671	5,420	5,679	4,923	5·99
Haberdashery and Boots	2,681	3,856	3,886	3,474	17·77

¹ *Koloniale Verslagen*. Conversion at the rate of 12 fl. to £1.

TABLE VII.¹—*continued*

	Average Annual Value 1900-04.	Average Annual Value 1905-09.	Average Annual Value 1910-14.	Mean, 1900-14.	Percentage of Total Import of Commodity.
	£	£	£	£	
Bread, &c. ..	2,684	3,404	2,665	2,901	97·65
Timber	4,771	1,761	1,642	2,725	68·21
Tobacco	2,116	2,114	1,939	2,056	33·05
Coal	391	103	2,037	844	23·27
Chemicals	469	872	1,125	822	14·25
Other Imports ..	11,207	11,274	22,447	14,976	—
Total Imports..	115,676	128,781	150,593	131,684	—
British Guiana—					
Cottons, Linens and Woollens	5,024	10,895	20,788	12,236	14·88
Flour and Grain..	7,377	5,468	6,860	6,568	12·14
Live Stock	1,815	7,755	9,356	6,308	76·99
Machinery and Iron Goods	2,358	4,397	4,627	3,794	10·55
Manures and Chemicals	1,079	1,926	2,784	1,930	22·16
Timber	790	1,199	1,547	1,179	29·50
Other Imports ..	15,543	16,321	27,884	19,916	—
Total Imports..	33,986	47,961	73,846	51,931	—
United Kingdom—					
Cottons, Linens and Woollens	28,846	3,484	1,804	11,378	13·84
Coal	2,146	3,413	2,158	2,572	70·93
Machinery	3,076	2,513	497	2,029	9·18
Grain	2,154	1,084	599	1,279	8·85
Other Imports ..	21,970	6,898	4,335	11,068	—
Total Imports..	58,192	17,392	9,393	28,326	—
French Guiana—					
Gold	35,107	23,725	15,486	24,773	100·00
Other Imports ..	2,247	2,794	2,836	2,625	—
Total Imports..	37,354	26,519	18,322	27,398	—

¹ *Koloniale Verslagen*. Conversion at the rate of 12 fl. to £1.

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MAPS

Dutch Guiana is covered by Stanford's map of *Guiana and Venezuela* (London Atlas Series), in one sheet, 83 $\frac{1}{4}$ miles to one inch.

FRENCH GUIANA

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I. GEOGRAPHY PHYSICAL AND POLITICAL

(1) POSITION AND BOUNDARIES

THE colony of French Guiana is situated in the north-east of the continent of South America, between Dutch Guiana and Brazil. It lies between latitudes $1^{\circ} 55'$ and $5^{\circ} 50'$ north, and longitudes $51^{\circ} 35'$ and $55^{\circ} 5'$ west. Its greatest length is approximately 260 miles, and its greatest breadth about 200 miles.

French Guiana is bounded on the north by the Atlantic Ocean; on the south by the chain of the Tumuc Humac Mountains; on the east by the River Oyapok; and on the west by the River Marowyne and its tributary the Awa (Itany).

The area of the colony is not exactly known, but it appears to cover over 34,000 square miles.¹

(2) SURFACE, COAST, ISLANDS, AND RIVER SYSTEM

Surface

Roughly speaking, the country may be divided into three zones: the savannah, the forest and mountain area, and the cultivated land.

The savannahs are of two kinds, the "swamp savannah" and that of the back-country. The former lies between the maritime border and the high woodlands, and the latter behind the forests of the interior. They are arranged mainly in parallel ridges and valleys.

¹ Worked out from map (Maurice Guffroy, Paris, 1902) and from award of 1905, equals 34,515 square miles; *Statesman's Year Book*, 1918, 32,000 square miles; *New International Year Book*, 1917, 34,069 square miles.

and remain entirely in a state of nature. The savannah lands cover some 15,000 square miles, and the average altitude is about 300 ft. to 400 ft. above the sea. The land is broken in places by granitic rock, blocks of conglomerate and isolated masses of quartz and clay; while clumps of trees, mostly palms, rise here and there where the soil is capable of their support.

The Tumuc Humac is the only range of mountains of any importance. It lies as a whole in an east by south direction parallel with the coast. In the west the system divides into two distinct chains some 25 miles apart. Only in three places do peaks rise above the dense tropical vegetation, while the fog which creeps up to the highest summits, especially in winter, makes observation almost impossible. Of these three peaks, Mitaraka, in the northern chain, rises to a height of 1,900 ft., while Mount Temorairem and Mount Timotakem rise in the southern ridge, the latter reaching a height of 2,624 ft. and being the highest summit in the range.¹

Between the Tumuc Humac Mountains and the coast the ground is broken by the fluvial valleys into separate ridges of short length, such as the Montagnes Françaises on the right bank of the Marowyné, the Montagne Magnétique (715 ft.) towards the south-east, between the Inini and Mana rivers, and Mount Leblond, where the granitic hills rise to a height of 1,335 ft.

South-east of Cayenne stretch the coastal hills of Caux (now called Kaw), culminating in Mount Matoury (836 ft.) near the Tour de l'Île river.

Coast

The shores of the colony are being continually extended owing to deposits from the rivers, and islands also are constantly formed in the same manner in the mouths of the larger streams. Apart from the mouths

¹ This mountain appears, however, to be in Brazilian territory.

of the more important rivers there are no considerable indentations in the coast.

With the exception of a few rocky bluffs which stand out on the beach the coast is a flat stretch of swamps and marshes, in some cases below high-water mark, fringed with *courida* (the roots of which protect the shore), and subject to the wash of the sea in front as well as to the rising of the swamp-water behind. The *pripri*, or more deeply submerged of the marshes, and the banks of the tidal rivers are lined with mangrove.

Islands

The principal islands are the three Iles du Salut (Iles au Diable), situated about 27 miles to the north-west of Cayenne. They comprise Ile Royale (the largest, containing a penitentiary), Ile Saint-Joseph, and Ile du Diable. The Enfant Perdu Island, about 4 miles from Cayenne, marks the entrance to the port. There is deep anchorage round the islands.

Disposed in a chain parallel with the shore are Le Malingre and the five Rémire Islands, and farther seaward the two Connétables face the mouth of the Approuague.

Cayenne Island, on which is situated the capital of the colony, is separated from the mainland by the Mahury river on the south and the Tour de l'Ile and Cayenne rivers on the west and north. It is about 13 miles long, with an extreme width of some $8\frac{1}{2}$ miles. Formerly gardens and plantations abounded on the island, but most of these have disappeared.

River System

Few countries in the world are better watered than French Guiana, where over twenty streams of various sizes find their way to the Atlantic. All the rivers from the Tumuc Humac Mountains flow into either the Oyapok or the Marowyne. In the highlands they are obstructed by rocks, which cause rapids, but also prevent the streams from running dry when floods recede; in their lower reaches the smaller rivers at least

often tend to merge in the marshes or riverside lagoons. They are often connected by channels (*itabos*), which in the rainy season are much in use. The chief rivers are the Marowyne, the Mana, the Sinnamari, the Oyac, the Approuague, and the Oyapok.

The *Marowyne* (*Maroni*, *Marowijne*), which rises in the Tumuc Humac Mountains, is about 390 miles in length, and the area of its basin is 23,000 square miles. The upper waters of its main stream approach those of the Oyapok, and in the rainy season the two rivers are connected by a cross channel. The Marowyne is navigable by steamboats for about 50 miles from the sea, and, notwithstanding its many rapids, for about 250 miles farther in canoes. Its upper course is formed by the junctions of the Awa or Itany with the Marouini¹ on the east and with the Tapanahoni on the west. Below the Hermina Falls (50 miles from the sea) the current is still rapid, the river descending 15 ft. or 16 ft. in about half a mile; here the average difference of level between dry and rainy seasons is 23 ft. [The mouth of the river, which is full of sandbanks, and contains several very fertile islands, measures at its widest nearly 4 miles.] The *Mana*, about 155 miles long, traverses a sparsely peopled district, taking a very circuitous course. It is navigable by small craft for about 36 miles from the mouth. The *Sinnamari* (*Sinamary*) is navigable for much the same distance as the Mana, and appears to be about the same length. The *Oyac* is a short but important stretch of river formed by the confluence, a few miles above Roura, of the Comté and the Counana. At Roura the Oyac divides into two branches, the eastern of which, known as the Mahury, forms the southern boundary of the "island" of Cayenne; the western branch, called the Tour de l'Ile, requires constant dredging in this section, but it is joined, a few miles from the coast, by the Cascades and the Mont-Sinéry, and reaches the sea as the Cayenne river above the town of Cayenne.

¹ Coudreau counted over 300 waterfalls and rapids in the ascent of the Marouini.

The *Approuague* is about 190 miles in length; its mouth contains several fertile islands covered with luxuriant vegetation. All rivers rising south of the watershed of the *Approuague* are tributaries of one or other of the two frontier rivers.

The *Oyapok* ("long river") rises as the *Souanre* in Mount *Ouatagnampa*. After being joined by the *Ouasseyeitou* it continues as the *Oyapok* to the sea, receiving many tributaries. It is broken by many high falls and rapids, the most important being the *Trois Saints* and *Robinson Falls*, the latter of which are 50 miles from the sea. The length of the *Oyapok* is approximately 300 miles, the area of its basin about 12,000.

(3) CLIMATE

The climate is not more unhealthy than that of other tropical colonies, and in some respects French Guiana compares favourably with the neighbouring colonies.

The normal temperature of the year may be taken at 80° or 81° F. in the inhabited zone. During the hottest part of the year (August, September, October) the temperature usually rises to 86° F., but hardly ever exceeds 88° F. In the cooler season the mean is 79° F., seldom sinking so low as 70° F. There is little difference of temperature between night and day. On the *Tumuc Humac* Mountains the nights are much cooler than at the lower levels.

The colony lies entirely within the zone of the north-east trade winds, but comes within the influence of the prevailing south-easterlies for a part of the year. The north-east winds are the stronger. During the rainy season winds keep between north and east, and during dry seasons between south and east. At *Cayenne* the normal wind (setting usually from the north-east) blows regularly from the beginning of December, acquiring its greatest force during January and February. At the spring equinox it abates a little, and then there follows a period of calms, interrupted by squalls; while

in July the south-easterly breezes increase. These blow mostly at night.

The year is, as a rule, clearly divided into two wet and two dry seasons, the long wet season lasting from mid-April to mid-August, and the long dry season from early in September to about the last week in November. December and January constitute the short rainy season; February and March the short dry season. March is the most consistently dry month of the year. In May the great downpours occur, the heaviest rainfall being on the coast. The average rainfall amounts to fully 130 in. per annum, though in Cayenne 160 in. have been registered. The plains are much drier than either the coast or the mountains. The air is everywhere very moist, and there is naturally a great deal of fog.

(4) SANITARY CONDITIONS

The coastal regions of French Guiana were formerly held to be one of the unhealthiest parts of the tropics, the transportation of a convict to certain of the penal settlements being considered practically equivalent to a sentence of death. Conditions have gradually improved, however, although the state of public health is still far from satisfactory. The usual tropical diseases, such as malaria, dysentery, &c., are found, but these lessen considerably as the higher regions of the interior are reached.

The town of Cayenne, though on the coast, lies fairly high, and can therefore easily be drained. Its death-rate is the same as that of Paris.

(5) RACE AND LANGUAGE

The bulk of the population is comprised of so-called "creoles"¹ and of the original French and English

¹ In Cayenne the term "creole" is loosely employed to denote any person—black or white—who has been born in the colony.

stock crossed with Dutch, Germans, and North Americans. Besides these there are the aboriginal Indians, the negroes, and the penal population.

There are three ethnical divisions of the aboriginal Indian population, the Arawaks (the oldest independent family), the Tupis, and the Caribs. These groups, while differing greatly in speech, present many points of resemblance in their appearance, physiognomy, and customs. In his *Explorations en Guyane* (1887-1891) Henri Coudreau gives a list of 16 tribes with which he came into contact, and he does not claim that the list is complete.

The Carib division has representatives in every part of the Guianas, some of the tribes even bearing the general name of the whole family. The *Galibis*, of pure Carib stock, are the most civilized of the tribes in the colony, and are known to have occupied the coast zone west of Cayenne for several centuries. At the present day many of their villages are scattered along the Sinnamari and Iracoubo rivers, as well as on the coast and along the right bank of the Marowynne; they have, however, left that part of the Marowynne where the Bush negroes dwell. The Galibi is usually of inferior physique to the Arawak.

Certain words of the creole patois have been adopted by the Galibis, and in Cayenne this tongue has become a sort of *lingua franca*.

The negroes and half-castes have in many places supplanted the aborigines. At present the negroes of French Guiana fall into two groups: the descendants of the slaves, who have always remained in contact with the white settlers on the coast, and the independent blacks, who live in the interior of the country and are the descendants of the Maroons (*marrons*) or runaway slaves. The latter are known as Bush negroes, or Bonis.

Some few words of African (Bantu) dialects are said to have been preserved in the language of the Maroons, which has an English basis but also a very

large Portuguese element. Dutch and French words have also found their way into the language.

There is a considerable white population, including Portuguese from Madeira and the Azores, and an infusion of English, Dutch, and German settlers, besides half-castes, Brazilians, Chinese, Annamites, and Javanese.

French is spoken by the élite of the capital, but the creole patois predominates throughout the colony. It contains many of the old French words of the original settlers, together with many English words. The primitive jargon of the Maroons is gradually yielding to cultured languages—English, French, and Portuguese.

(6) POPULATION

Distribution

The territory of French Guiana is one of the most sparsely peopled countries in the world. One-quarter of the total population is foreign.

Of the population of the communes more than half reside in the town of Cayenne. These are mostly negroes, descendants of the freedmen who flocked in after the emancipation of 1848.

Population according to the latest available census (1911):—

Population of the 14 communes ¹	26,325
Troops, customs officers, convict guards, sailors, &c.	677
Diggers on goldfields, estimated at	12,000
Bush negroes and Indian tribes ²	3,542
Convicts	6,465
Total	49,009

¹ See footnote to p. 9 for names of communes.

² The number of Indians is probably under-estimated. Bush negroes number only a few hundreds (in 1898, 500).

Penal population, 1915 :—

Transported	...	...	...	4,297
Under seclusion	...	...	...	12
Relégués	...	...	...	2,877
Freed	...	...	...	1,382
Total				8,568

Towns and Villages

French Guiana is divided into 14 communes, exclusive of the Marowynne district.¹ These communes comprise scarcely the eighth part of the entire territory, and are confined almost entirely to the littoral and alluvial districts. The unsettled inland region remains undivided.

Cayenne is situated at the north-western extremity of the island of Cayenne. It was one of the earliest settlements in Guiana, and became the permanent capital in 1877.

The basin of the River Marowynne is inhabited in its upper and middle courses only by a few scattered groups of Indians, negroes, and gold-hunters. The first white settlements are some 38 miles above the estuary, and these are nearly all occupied by convicts. Free colonisation in this district is represented only by a few plantations which were granted to some Algerian Arabs after their discharge from detention.

The chief towns of this district are *Saint-Jean*, which lies farthest up the river, and *Saint-Laurent*, the capital of the penal colony, which is situated about 15 miles from the mouth of the Marowynne river, and is the starting-place for the goldfields.

Mana, on the river of the same name, is regarded as one of the healthiest settlements in the colony, and

¹ The communes are Cayenne, Oyapok, Approuague, Kaw, Rémire, Matoury, Roura, Tonnégrande, Mont-Sinéry, Macouria, Kourou, Sinnamari, Iracoubo, and Mana.

Sinnamari (*Sinamary*), near the mouth of the Sinnamari river, was originally a Dutch settlement.

Kourou, on the sea-coast, is a mere dependency of the three Salut Islands (*Iles au Diable*), belonging to the neighbouring penal establishment. Of these *St. Joseph* and *Ile Royale* form the convict station proper, while the little island of *La Mère*, in the *Rémire* group, is reserved for the aged and infirm and for convalescents.

The port of *Oyapok* is situated near the mouth of the river of the same name.

Movement

Except in certain favourable years the mortality is always higher than the birth-rate, although the death-rate amongst Europeans does not appear to be unduly high. The birth-rate is highest amongst the blacks; but as infant mortality is highest amongst them also, the death-rate exceeds the birth-rate, and everywhere the negroes are decreasing in numbers. The native (Indian) population is also declining, and although the survivors are more numerous than is commonly supposed, more than half of the groups mentioned by the old writers have already disappeared. Infant mortality is not high amongst the Indians, but the birth-rate is low and is exceeded by the death-rate. The mortality among the total population during the years 1889-1901 averaged 34.1 per 1,000.

No really spontaneous stream of immigration has ever been directed from France to Guiana. Most of those who have come have been either colonial officials, soldiers, hired labourers, or criminals.

II. POLITICAL HISTORY

CHRONOLOGICAL SUMMARY

- 1667 Peace of Breda.
- 1676 Cayenne taken by Dutch and retaken by French.
- 1678 Peace of Nymegen.
- 1713 Peace of Utrecht.
- 1763 Choiseul's colonial enterprise.
- 1777 Malouet becomes Governor.
- 1794 Freedom granted to slaves.
- 1798 Political exiles sent to Cayenne.
- 1800 Victor Hugues becomes Governor.
- 1808 Cayenne attacked by Anglo-Portuguese force.
- 1809 The colony handed over to the Portuguese (Brazilians).
- 1814 The colony restored to France.
- 1817 End of Portuguese occupation.
- 1853 Gold discovered.
- 1854 Cayenne becomes a penal colony.
- 1891 Boundary Arbitration of Tsar Alexander III.
- 1897 Treaty of Arbitration (France and Brazil).
- 1899 Decision of Swiss Federal Council under the foregoing.

(1) 1667-1817

THE Peace of Breda was signed on July 21, 1667; but it was arranged, in accordance with the custom of the seventeenth century, that it should not come into force in the two Indies for ten weeks. Admiral Harmon arrived in June at Barbados with a British squadron with the object of recovering the colony of Surinam (which had been captured earlier in the year by the Dutch Admiral Crynssen) and re-establishing the British power in the Antilles. Cayenne had served as a base for Crynssen; and on August 19 Harmon attacked the French settlement on that island. Governor De Lezy had no means of resisting successfully, and fled to Surinam. Taking such plunder as he could find, Harmon now sailed to Surinam, which in its turn had to

surrender. These successes came, however, too late to be of any avail. Peace had already been concluded, and Cayenne was restored to its former owners. The misfortunes of Governor De Lezy were, however, not yet over. In March 1676 a Dutch fleet, under Admiral Binckes, arrived before Cayenne; and De Lezy, compelled to capitulate, was taken as a prisoner to Holland. In October Cayenne was retaken by the French, and from this time until 1808 the colony remained undisturbed by any hostile attack.

A number of filibusters, who in the course of these maritime wars had been gathering spoils in the Caribbean Sea, settled in Cayenne after the Peace of Nymegen (1678), with the intention of investing their gains in planting. With the fresh outbreak of war in 1689, these men were quite ready to revert to their former lucrative occupation, and followed the corsair, Du Casse, as related elsewhere,¹ in his raid upon Surinam and Berbice. Few, if any, of them returned. "La colonie," says Raynal,² "ne se releva jamais de cette perte. Bien loin de pouvoir s'étendre dans la Guyane, elle ne fit que languir à Cayenne même." The French colonist was never attracted to this tropical possession, and when he did come he had neither the patience nor the industry of the Dutch in empoldering the rich but marshy alluvial belt along the sea-coast. Towards the middle of the eighteenth century, however, some real progress had been made, and the colony attained to a state of prosperity which seemed to promise better things.

The Seven Years' War, by cutting off the sea communications between Cayenne and the mother-country, effectually checked the growing export trade, and spelt disaster to French colonial enterprise. Canada and India were lost, and the French expelled from the Mississippi. French Guiana remained; and in 1763 Choiseul, Minister of Louis XV, conceived the idea of creating a great French colony there. Accordingly

¹ See *Dutch Guiana*, No. 136 of this series, p. 11.

² *Histoire . . . des deux Indes*, Geneva, 1781, vii, p. 31.

he obtained a grant from the King; and, with liberal State aid, more than 12,000 persons were induced, by the promise of free grants of land and deceptive descriptions of the richness of the country, to go out as colonists to the valley of the River Kourou. No preparations were made for their reception. They were landed in the midst of the rainy season on a desolate shore half submerged in water. Of the whole number only 918 persons, enfeebled by malaria, fever, and other diseases, returned to France. A few settled on the Sinnamari. The rest perished (1764-65).

The old settlement on the island of Cayenne still continued during the following decades to make fair progress. In 1775 there were 1,300 whites and 8,000 negroes; and in 1790 the exports were valued at 700,000 francs. This increase of production was largely due to the good work done by M. Malouet, who was sent out as Governor in 1777, under the auspices of Turgot and Necker. Malouet had had experience of the Dutch methods of empoldering the littoral belt, and by building dykes and constructing canals he converted a long stretch of the shore into rich, cultivable land for plantations. [The outbreak of the French Revolution, however, wrecked once more the advance of this unfortunate colony. In 1794 the slaves were presented with freedom. When the result was found to be that they were idle and insubordinate, compulsion was used to induce them to work, and practically they were re-enslaved.] The next step of the Revolutionary Government was to deport to a spot which ever since the disaster of 1765 had acquired an evil name for insalubrity political prisoners, including Billaud-Varennes, Collot d'Herbois, and Pichegru, the conqueror of Holland. In 1798 no fewer than 500 were thus deported to almost certain death. Though cut off, as British naval supremacy asserted itself, from communication with France, Cayenne was not captured at the same time as the Dutch Guiana colonies; indeed, for some years it served as a base for privateering. Victor Hugues, who was appointed Governor in 1800, was a

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capable administrator; and when, in December 1808, Cayenne was attacked by a joint Anglo-Portuguese naval force he made a vigorous defence. On January 14, 1809, the colony surrendered, and was handed over by the British to the Portuguese (Brazilians). It was restored to France by the Treaty of Paris in 1814;¹ but the Portuguese continued their occupation until 1817.²

(2) 1817-1914

The history of French Guiana after its restoration by the Portuguese-Brazilian Government in 1817 is an unhappy one. Few French settlers could be induced to go out. Plantations fell into decay, and the area of land under cultivation became less and less. In these circumstances Napoleon III in 1854 determined to make Cayenne a penal colony. The law of May 30, 1854, directed (Article II) that the transported criminals should be employed "aux travaux les plus pénibles et à tous autres travaux d'utilité publique"; and (Article XI) that they should obtain, when proved worthy of indulgence by their good behaviour—

- (1) " L'autorisation de travailler aux conditions déterminées par l'administration, soit pour les habitants de la colonie, soit pour les administrations locales.
- (2) " Une concession de terrains et la faculté de la cultiver pour leur compte."

In 1853 gold was discovered in the basin of the Approuague; and since that date placer-mining has formed the chief industry of French Guiana.

There have been two boundary arbitrations. (1) The question as to which of the higher branches of the River Marowyne was the true source of the river and should form the boundary between French and Dutch Guiana was referred to the Tsar Alexander III, who in 1891 in his arbitral decision named the River Awa

¹ See Appendix No. III.

² See Appendix No. IV.

(Lawa) as the frontier stream.¹ (2) The much larger question as to the boundary between French Guiana and Brazil was referred to the Swiss Federal Council. The dispute was of long date, anteceding the Treaty of Utrecht of 1713 between France and Portugal. Article VIII of this treaty² fixed the river "de Japoc ou de Vincent-Pinson" as the frontier; but this did not settle the matter, as the French claimed that the River Vincent-Pinson was the Araguay, the Portuguese and their successors, the Brazilians, that it was the Oyapok (Dutch Jacopo). The French also, on the ground of exploration, claimed a large area, extending to the south of Dutch Guiana, and reaching even to the Rio Branco; and they relied upon the support given to their claims by the Treaty of Madrid (September 29, 1801),³ and its confirmation by the Treaty of Amiens (March 25, 1802). A treaty⁴ submitting the question to the Swiss Government for arbitration was signed in 1897; and the Swiss Federal Council decided (1899) in favour of the Brazilian contention, France obtaining only 8,000 square kilometres of the 400,000 to which she laid claim. The River Oyapok is now the boundary.

¹ A further and final settlement was made in September 1915. See *Dutch Guiana*, No. 136 of this series, Appendix, p. 68.

² See Appendix, No. I.

³ See *ibid.* No. II.

⁴ See *ibid.* No. V.

III. SOCIAL AND POLITICAL CONDITIONS

(1) RELIGIOUS

THIS colony has been for two centuries and a half continuously French; and for the greater part of that time Catholic missions, with the active support of the State, have carried on successful work. At the present time a number of devoted men are continuing that work in the gold-mining districts and among the natives of the far interior. The religion of French Guiana is predominantly Roman Catholic.

(2) POLITICAL

The power of the Governor was almost absolute for the period between the restoration of the colony to France in 1817 and the year 1870. No provincial or municipal representation of any kind existed in the colony under the Restoration and the July Monarchy. An elective Colonial Council was summoned to advise the Governor, but had no executive, administrative, or financial power. The Republic of 1848 gave the colony the right of representation in the Legislative Assembly at Paris, and it was proposed to create *Conseils généraux* in Guiana. Napoleon III suppressed these privileges; and in place of a Colonial Council the Governor was now assisted by a Privy Council, composed mainly of functionaries, but with a certain number of colonists in addition nominated by the Governor. There was, therefore, no semblance of popular representation or control.

“ Par un privilège qui n'a pas de précédent dans la législation contemporaine ou passée d'aucun pays, le Gouverneur de la Guyane est investi depuis 1854 du droit de fixer à son gré la nature et l'assiette des impôts, d'en régler seul la quotité, la perception, l'emploi. Du jour au lendemain il peut les improviser à son gré.”¹

¹ Jules Duval, *Les Colonies . . . de la France*, Paris, 1864, p. 288.

In 1870 some reforms were introduced; and a colonial assembly called the Chamber of Agriculture, Commerce, and Industry, was set up. This Chamber consisted of fifteen members, elected by an assembly of a hundred men of substance. Its functions were, however, purely consultative.

In 1878 the Government of the Republic determined to establish a *Conseil général* in Guiana, consisting of sixteen members, and to confer upon it the powers of local administration which were usual in the case of such Councils, and the special right of supervising the exchange, acquisition, or alienation of colonial properties not appropriated to the service of the State. In 1882 the *Conseil général* was empowered to elect from among its members a smaller body of three to perform the duties of a Colonial Commission.

In 1879 the colony had recovered the privilege of sending a deputy to represent its interests in the Legislative Assembly at Paris. In the same year French Guiana was divided into ten communes; but, with the exception of the town of Cayenne itself, it was not until 1898 that the communes obtained the right to elect their municipal councils. The number of communes is now fourteen (see p. 9, footnote).

The Penal Settlement has its own administration.

(3) EDUCATIONAL

The organization of primary education throughout the colony was created by a decree dated October 30, 1889. Secondary education was regulated by a decree of January 4, 1894. Instruction is gratuitous. In 1914 there were in French Guiana twenty-two primary schools with 2,351 pupils, and four Congregational schools with 445 pupils. The College of Cayenne is the centre of secondary and higher education in the colony.

GENERAL OBSERVATIONS

Gold-mining is the only productive industry. Auriferous deposits seem, indeed, to be widely distributed throughout the colony, as also in other parts of Guiana. The gold-seekers in Cayenne have, however, contented themselves with the primitive and imperfect method of alluvial washings; there has been no serious attempt at quartz-crushing. The return, nevertheless, has been quite considerable.¹

Agriculture is neglected, and the country, which in the middle of the eighteenth century produced large quantities of sugar, cotton, coffee, and cacao, has fallen so low that, to quote a French authority:—

“ Elle ne produit même pas assez pour l'alimentation de ses habitants, et tous les objets de consommation, même la viande de boucherie, viennent du dehors ; c'est là un affligeant spectacle pour le voyageur.”²

Another authority writes :—

“ Les cultures, le commerce et la population sont représentés par des chiffres dérisoires, si l'on tient compte de l'énormité des espaces et de l'antiquité de la possession.”³

The boundary arbitration decisions of 1891 and 1899 and the treaty of 1915 determined the territorial limits of French Guiana, and settled the only questions in which other countries are interested.

¹ See below, pp. 38-43.

² M. Petit, *Les Colonies françaises* (*Petite Encyclopédie coloniale*), p. 650.

³ Paul Leroy-Beaulieu, *De la Colonisation chez les Peuples modernes*, II, p. 21.

IV. ECONOMIC CONDITIONS

(A) MEANS OF COMMUNICATION

(1) INTERNAL

(a) *Roads*

IN French Guiana, as in the neighbouring colonies, the rivers are the natural highways of the country, and roads are few in number and indifferent in quality. Passable carriage roads extend only for some 25 miles in the neighbourhood of Cayenne and for some 20 miles in that of Saint-Laurent. Officially roads are classified as "colonial roads," "public utility roads," and "parochial roads." Two roads are included in the first class. One of these, the "route coloniale No. 1," starts from Macouria Point, opposite Cayenne, and runs for about 62 miles through Tonate, Kourou, and Malmourou towards the Marowynne; it is a properly macadamised carriage road as far only as Tonate, that is, for about 12 miles. The other, or "route coloniale No. 2," crosses the Ile de Cayenne from the capital to the Dégrad des Cannes, and serves Rémire.

These roads are repaired by convict labour, and on the first of them the reconstruction of the bridges in reinforced concrete has lately been put in hand. Theoretically the maintenance of all the other public roads of the country is a charge upon the funds of the various local authorities, but in fact it falls for the most part upon the colonial budget, and is performed by convict labour. The carriage road by the Marowynne belongs to the Penal Establishment, the headquarters of which it connects with the factory at Saint-Maurice

and with the farms. Some privately made roads are found on the goldfields, and there is a certain number of tracks impassable in the wet season and of limited utility in the dry. A heavy rainfall and exuberant vegetation render the maintenance and repair of roads a costly process. Points of settlement being mostly on or near the sea, access to them is obtained by means of small steamers and schooners, which ply along the coast; and the goldfields and balata-concessions of the interior are reached by river.

(b) Rivers and Canals

The colony has many rivers—more than 15 are counted between the Marowynne and the Oyapok, most of them with many affluents—but, as with all Guianese rivers, their utility is lessened by the numerous rapids and falls which interrupt their courses. The streams in the coastal region being often separated only by a narrow strip of low-lying land, portage from one to another is often possible, and many are connected with each other by natural or artificial channels. On the whole, however, they are considerably less useful as means of communication than the rivers of British and Dutch Guiana, because, as the land begins to rise nearer the coast in Cayenne, the distances inland for which the rivers are easily navigable are considerably shorter. Like the Surinam rivers, too, they suffer from great variations in the level of water from season to season; sudden and dangerous rises, rendering the rapids impassable, are not uncommon in times of rain; and during droughts many rivers shrink to insignificant proportions, necessitating numerous portages.

In these circumstances the canoe is the only available craft, and despite the extraordinary skill of the Bush negro it is a tedious, costly, uncertain, and even dangerous method of locomotion. On some of the more broken streams the traveller may expend as much as three weeks or a month in reaching his destination, and such industries as are carried on in the interior are

greatly hampered by the difficulty of communication and the cost of transport. Some improvement, it is true, has been effected lately by the adoption of motor power in some of the canoes, and an extension of this method of propulsion would seem likely to effect economies in freights; but the Cayenne rivers will never be really useful as means of communication until the great obstacles presented by their rapids are circumvented either by a system of canals and locks or by the provision on land in the vicinity of the rapids of light railways or of some other means of facilitating portage. Even in present conditions the river and coastal services might be made better than they are, and such improvement is much to be desired.

The most important rivers of the colony are the Marowyne, the Mana, the Sinnamari, the Cayenne, the Approuague, and the Oyapok.

The *Marowyne* (*Maroni*) is the boundary on the side of Dutch Guiana. Its entrance is three miles wide, but it is obstructed by sandbanks joined together by a bar, and vessels of 11 ft. draught are the largest that enter. Small river steamers or large canoes can ascend almost as far as Hermina Rapid, which is more than 50 miles from the mouth. Above this point rapids are numerous, and there is difficulty in reaching the rich auriferous region of the upper river and its tributaries, the Awa and Inini.

In the entrance of the *Mana* there is a depth of no more than $4\frac{1}{2}$ ft. on the bar at low water, but spring tides rise 9 ft., and small craft can reach the town of Mana six miles above the mouth, where they moor abreast the town in $3\frac{1}{2}$ fathoms, and they can proceed up stream for some 30 miles above this point. A tributary which joins the main stream half a mile above the town can also be navigated by small craft for some eight miles. On the Middle and Upper Mana, where the river is winding and is joined by many creeks, there are auriferous regions, and amongst the well-known placers here are those called *Souvenir*, *Union et Triomphe*, *Enfin*, and *Elysée*.

The *Sinnamari* is over a quarter of a mile wide at the bar, which is nearly dry at low tide, but has a depth of 9 ft. at high-water springs. Small steamers can ascend the river to the point of its confluence with the Courcibo, about 18 hours from the coast. Above that point numerous falls and rapids impede navigation. Canoes can use the Tigre creek when the water is high. The Sinnamari is frequented by small coasting craft, which can moor off the town of Sinnamari in three fathoms over a sandy bottom. Like some of the other rivers of the colony, the Sinnamari is not easily accessible by sea during the bad months. On the upper river are some well-known placers, such as the Placers Saint-Elie, Dieu-Merci, Bonne Aventure, Adieu-Vat, and Sursaut.

The *Cayenne*, a name given to the lower course of the Oyac (see p. 4), is important chiefly because the capital of the colony stands at its mouth. Two of its tributaries, the Tonnégrande and Cascades rivers, can be navigated by light craft, the former for about two miles and the latter for about ten miles. The regions watered by this system of rivers, notably the valleys of the Orapu and the Comté, are auriferous, and these goldfields enjoy a decided advantage in their proximity to Cayenne.

The *Approuague*, the basin of which is the cradle of the gold-mining industry in French Guiana, has 11 ft. of water on its bar at high-water neaps, and vessels of moderate draught can ascend it for several miles. The first rapid, the Saut Tourépée, is impracticable at low water, but its rocks are completely covered when the tide is high, and vessels can then be towed through it to the Saut Mapaou, which can thus be reached by ships large enough to carry mining machinery from Europe. Above this rapid as far as the Saut Canory navigation is difficult, but above the latter point flat-bottomed steamboats can again be used.

In the funnel-shaped bight of the *Oyapok*, which is 12 miles wide at its outer extreme, navigation is somewhat difficult by reason of the absence of marks. The

entrance channel has 7 ft. of water at low tide and 19 ft. at high. Small vessels can ascend as far as Saint-Georges, which is about 30 miles up, but the channel is very narrow. At Saint-Georges there is anchorage in a depth of 10 ft., and there is a wharf. Throughout the rest of the length of this long river navigation is very difficult, and canoes manned by negro experts are the only craft which venture to confront its perils.

Other rivers, such as the *Kourou*, *Iracoubo*, *Organabo*, and *Mahury* (a name given to the most easterly branch of the Oyac), are navigable for short distances only by coasting craft, and many of them are not accessible at certain seasons of the year.

Of the canals once possessed by the colony most are now silted up and neglected, and two only are of practical use at the present time. Of these the more important is the Laussat Canal, which skirts the town of Cayenne on the south, and empties into the port. It serves both for drainage and for navigation. The other, called the Fouillée Creek Canal, about 6 miles long, provides a connection between the port of Cayenne and the mouth of the Mahury river which vessels find useful as a means of communication with the communes of the Quartier du Vent.

(c) *Proposed Railways*

Various projects for the construction of railways have been mooted at intervals during the past 30 years, but they have not yet led to any concrete result. The first scheme, propounded in 1887 by the President of the Conseil Général, contemplated a coast line from Cayenne to Saint-Laurent *via* Macouria, Kourou, Sinnamari, and Mana, with "lines of penetration" running at intervals at right angles to the main track. It was, perhaps, fortunate that this scheme was abandoned, for it was open to many serious objections. The line would have traversed a low-lying, much-watered country, where many bridges would have been required, and frequent repairs would have been necessary; it would have been of benefit primarily to an

agricultural industry which is almost extinct, and only incidentally, if at all, to the goldfields and the forests; most of the objects it might have accomplished are already achieved with tolerable efficiency by existing roads and coastal services; and unless it had promoted a great agricultural revival it could never have paid its way.

The next project was that of M. David Levat, a mining engineer, which was approved by the Conseil Général in 1900. M. Levat's idea was to construct a line from Cayenne by way of the valley of the Comté to the goldfields of the Upper Approuague, whence two branches were to run, the one to the Awa by the valley of the Inini, the other to the Oyapok frontier. The cost of this railway would have been very considerable; upon official reconsideration it was deemed to be too ambitious a scheme; and before its author had succeeded in raising the necessary funds for making a beginning the sanction which he had obtained was annulled.

The Government has since decided that any railway which may be built must be a State undertaking, and has talked of a line with the railhead at the Saut Tourépée on the Approuague, which can be reached by steamer from Cayenne. The last recorded step in the matter of proposed construction was taken in December 1913, when the Conseil Général authorized the local administration to submit a scheme for a narrow-gauge economic railway from the Dégrad Cacao, where the Comté river ceases to be navigable, to the valley of the Inini. The length of this line would be about 100 miles.

The realization of some adequate scheme of penetration is of vital importance for the economic development of the country, for without it the existing goldfields cannot be fully worked, new ones are less likely to be created, and the exploitation of the forest and other wealth scattered over the country is difficult or impossible. As a Governor of the colony has said: "It is to the construction of economic lines, linking up the

goldfields with navigable streams, . . . to an improved service of steam launches and motor boats, and to the consequent elimination of slow and costly transport by canoe and porter, that the mining industry must look for a reduction in its general expenses and for a prospect of real progress."

The Penal Establishment has a light railway of its own between Saint-Laurent and Saint-Jean, serving the factory at Saint-Maurice and the agricultural concessions. This line, built in 1897, is open to general traffic by virtue of decrees of 1898 and 1900, but serves no important general purposes. Other light railways exist here and there on the goldfields, as, for example, the line from the Hermina Rapid on the Marowynne to the Elysée concession, and the little Decauville rail for the transport of goods along a part of the Lézard Creek which is sometimes rendered impracticable by drought.

(d) *Posts, Telegraphs, and Telephones*

Regular postal communication is maintained between the capital and the different communes. With Mana and the Marowynne there is a weekly connection by a subsidised vessel belonging to the Société de Navigation Clanis et Tapon et Compagnie. With the Approuague and Oyapok centres on the one hand, and with the Salut Islands, Kourou, and Sinnamari on the other, there is fortnightly connection by a similar subsidised service. In the case of Tonnégrande, Mont-Sinéry, and Roura, where the connection is weekly, and in the case of Kaw, where it is fortnightly, the service is performed by a contractor. A sailing boat makes fortnightly visits to Ouanary. In addition to the regular services mail bags are despatched by every boat leaving Cayenne for any of the communes. Cayenne is also connected by a service of rural postmen twice weekly with Macouria,

¹ Governor Picanon, cited by A. Dangoise, *Autres Notes et Nouvelles Etudes*, p. 222.

Kourou, Roches, Sinnamari, Iracoubo, Matoury, Montjoly, and Rémire. At Cayenne, Mana, and Saint-Laurent there are two deliveries of letters daily. In the other communes letters are delivered by rural postmen after the arrival of each mail.

A telegraph line, maintained and operated by the Penal Establishment, runs from Cayenne to the Marowyne by way of Macouria, Roches, Sinnamari, and Mana.

There are telephone exchanges at Cayenne, at Saint-Laurent, and at some other centres. The subscribers number about 100, many of these being official connections, and only about one-half being members of the public. The telephone system has lately been undergoing a process of reconstruction and extension which has for the time being impaired its popularity. Four suburban lines, about 14 miles in length, were erected in 1914, connecting Montjoly, Rémire, Le Rorota, and Fouillée Creek with the capital, and the construction of a line, about 25 miles long, to Matoury, Stoupan, and Roura was carried out in the following year.

(2) EXTERNAL

(a) *Ports*

Cayenne and Saint-Laurent were the only ports open to external commerce until the year 1901, when Saint-Georges-de-l'Oyapok was added. Saint-Laurent is tending to grow in importance by reason of the discoveries of rich gold deposits on the Awa and Inini, affluents of the Marowyne, and by the establishment in the town of branches of the business houses of Cayenne; but the shipping entered there is at present small in comparison with the Cayenne figures, while that which makes use of Saint-Georges is insignificant.

In the entrance to Cayenne harbour there is a bar which used to have over it a depth of 13 ft. of water at high-water springs, but the whole port has a marked tendency to silt up, and the greatest depth is now so

much reduced that not even a moderate-sized ship can enter laden, the mailboat and other steamers being obliged to lie off at five or six miles from the town and discharge by lighters. A lack of buoys and beacons without and of adequate facilities within also deters ships from attempting to enter. The channel deepens within the point on which the town is built, but at the town itself the depth of water, which varies, is never considerable. Here small vessels moor near the mole, which has a crosshead, and alongside which they can lie at high water; and a wooden jetty 250 ft. in length, which was built in 1914, enables lighters to discharge at practically all states of the tide. A small stock of coal is kept, and ordinary supplies may be obtained. There are facilities for executing minor repairs to small vessels.

At Saint-Laurent (Saint-Laurent-du-Maroni) there are two wharves. One of these is reserved for the use of the Penal Establishment, but the other is available for general commercial purposes, and all vessels that can enter can lie alongside it.

The harbour accommodation of the colony is thus suitable only for light craft; for vessels of larger size the only anchorage available in the season of the on-shore winds is under the Salut Islands, at a distance of some 30 miles from Cayenne; and want of accommodation for shipping is an obstacle to economic development. A considerable expenditure would have to be incurred before Cayenne could meet the requirements of a commercial revival, and it has even been proposed that the harbour there should be abandoned in favour of some other port, as, for example, Saint-Laurent; but, in fact, no other place has been much more favoured by nature, whilst the shipping centre of the colony could not be displaced without great dislocation of its economic life. It is therefore in the direction of improvement at Cayenne that salvation seems to lie. It has been officially estimated that it would cost £250,000 or more to convert Cayenne harbour into a really good

port, but immediate requirements could be met adequately with a much smaller outlay.

(b) *Shipping Lines*

In normal circumstances Cayenne has a monthly connection by a subsidiary service to Port-de-France with the main service of the Compagnie Générale Transatlantique from Saint-Nazaire to Martinique and Colon, and cargo boats of the same company call at the port from Bordeaux. The colony is visited by French lines of sailing ships from Saint-Nazaire, Nantes, Le Havre, Bordeaux, and Marseilles. There is also a monthly steamer service to the Antilles. The subsidiary French mailboat service gives a connection with Surinam, British Guiana, Trinidad, and St. Lucia; an inter-colonial service is run by the Surinam Government; and a service between Cayenne and Paramaribo has lately been inaugurated by a local French house. The connections with Paramaribo and Georgetown—especially the latter—offer opportunities of access to various European and American ports, but they involve trans-shipment, and a direct connection with the United States would probably stimulate trade.

Shipping Statistics.—On the annual average of the years 1905-14¹ the number of vessels entering the ports of the colony was 284, with a tonnage of 54,700 tons. Of these, 69, of 31,707 tons, or 58 per cent. of the total tonnage, flew the French flag; 17, of 7,734 tons, or 14 per cent., flew the Norwegian; 36, of 5,155 tons, or 9 per cent., were British; 113, of 2,444 tons, or 5 per cent., were Dutch; 4, of 2,475 tons, or 5 per cent., were Italian; and 45, of 5,185 tons, or 9 per cent., belonged to other countries. On a comparison of the annual averages for 1905-9 and 1910-14¹ the total shipping shows an increase from 225 vessels of 50,114 tons in the first

¹ Omitting 1911, for which year the returns in the *Statistiques de la Navigation dans les Colonies Françaises* are only fragmentary.

period to 321 vessels of 60,433 tons in the second. On a comparison of the same periods Norwegian shipping has remained stationary at 14 per cent. of the total tonnage, and the shipping under all other flags has declined, with the exception of the French, which has increased from 47 per cent. in the first period to 69 per cent. in the second.

(c) *Cables*

Submarine cables owned by the Compagnie Française des Câbles Télégraphiques connect Cayenne with Para to the eastward and with Paramaribo to the westward, and thence either way with Europe. The cables are subject to frequent breakage, and the absence of a cable ship delays repairs.

(B) INDUSTRY

(1) LABOUR

Among the causes which have most effectively arrested development in Cayenne have been the inadequacy of the labour supply, the lack of an efficient recruiting system, and the defective arrangements which prevail with regard to the organization and employment of such labour as exists. The economic crisis provoked by the emancipation of the slaves has persisted in varying degrees of intensity for the past 70 years, and there is no present indication that the end is at hand. Slavery was abolished in French Guiana by a decree of April 27, 1848, without the smallest regard to the consequences of the enactment or the least provision for future needs. Fourteen thousand five hundred slaves were suddenly freed, and the colony was instantly deprived of labour, the slaves being enabled by the bounty of nature to subsist with little exertion on their own part, and freedom presenting itself to their imagination as an elysium of idleness relieved by anarchy. From that

day to this the chief need of the country has been the replenishment of the labour market and the creation of an agricultural population, but the devices by which a similar need has been more or less relieved in the neighbouring colonies have failed here, and the failure has been intensified by the gold fever which has been epidemic in the country for over half a century, and has diverted to the placers what little remained of capital, labour, and enterprise.

Existing sources of supply are the aboriginal Indians; the Bush negroes (*nègres marrons*, Boschs, or Bonis), the descendants of the runaway slaves of the eighteenth century; the descendants of the slaves liberated in 1848; the creoles or mixed population; the immigrant population; and the convicts of the Penal Establishment.

The Indian will make a good boatman and a fair forester, when he can be induced to work; but in his natural state he is timid and loves liberty, and the few Indians who have been in contact with civilization have been found to be changeable and devoid of application. The economic value of the aboriginal is thus small. The Bush negroes, with their magnificent physique and marvellous skill in watermanship, are admirable woodmen and ideal boatmen, and the exploitation of forests and the maintenance of communications on the upper rivers both depend mainly upon their exertions; they also cultivate the land round their villages and supply some rice to the rest of the population; but they are as tenacious of their independence as the aboriginals, and hold aloof from the economic life of the colony too much to exercise a helpful influence upon it. The other negro group, composed of the descendants of the freed slaves, is much more important numerically, forming as it does the greater part of the population of the colony; and by an uninterrupted contact with civilization these negroes are better fitted for industrial activity than are their brethren of the bush. They have, however, inherited from their fathers an aversion to labour on the land,

which they regard as incompatible with the dignity of a free man and a citizen; and although with the passage of time they have learnt to harbour some desires which only money can gratify, the possibility of a return to agriculture among them has unhappily been extinguished by the lure of the goldfields, and such labour as the small holdings and surviving plantations draw from the black population is recruited exclusively among the old men, women, and children. Similar conditions govern the supply of labour from the creole population.

In the matter of imported labour the colony has undergone the same vicissitudes as its British and Dutch neighbours, but a less degree of success has attended its efforts, chiefly in consequence of the failure of Hindu immigration. Other sources tapped in Cayenne have failed for much the same reasons as in the adjoining colonies, and the Portuguese, Chinese, and Javanese who have been introduced have either gone home again or have deserted the land for small trading, peddling, and similar avocations. An attempt to continue the supply of imported negroes had to be stopped by the French Government because of the abuses to which it gave rise in Africa, and the object of an importation of Annamites for agricultural labour was frustrated by the masterly inactivity of the imported, who have ever since lived in a village on the coast, where they devote to the capture of fish such time as they are constrained to snatch from the consumption of opium. Of the few Hindu survivors of the former immigration some are employed on the goldfields, and others are engaged in market-gardening on small holdings near Cayenne; whilst the West Africans have founded a small agricultural colony near Rémire, where they grow manioc, rice, sweet potatoes, and bananas. Forest and mineral exploitation attracts a certain immigration from the neighbouring colonies and from the British and French West Indies, but this population, which is of a floating character, makes no contribution to colonisation, and no great success

has attended the efforts of the Cayenne Government to attract for permanent settlement the inhabitants of Martinique rendered homeless by the Mont Pelée disaster of 1902.

The convicts of the Penal Establishment, who are employed upon public works and make some contribution to agricultural and forest development on the Penal concessions, may also be hired to work for private employers, but are of comparatively little use.

Labour conditions are thus unsatisfactory. Everywhere, except upon the goldfields, the supply of labour is deficient in quantity and indifferent in quality, while even upon the goldfields labour is none too plentiful, and what there is of it is expensive in ordinary times and very costly in periods of excitement.

A speedy and satisfactory solution of the labour problem is a vital matter for Cayenne. With such supplies as the colony can now command, it cannot hope to restore its agricultural industry, to turn its mineral and forest wealth to the best account, or to effect the improvements in harbour works, internal communications, and land reclamation which are the conditions that must precede an economic expansion. An increase will, perhaps, slowly result from the process of gradual infiltration which is steadily drawing to the goldfields a considerable portion of the indigenous population of the Antilles. As soon as a sufficiency of labour on the placers reduces the level of the miner's pay to that of the agricultural wage, the workman will no longer have any motive for preferring a task which is arduous in itself and is performed in conditions of isolation and discomfort. The difficulty of supplying the goldfields with food from the coast might then produce an extension of agricultural activity to new spheres, and thereby a solution might be achieved of the economic crisis which for too long has harassed the country.

(2) AGRICULTURE

(a) *Products of Commercial Value*

Vegetable Products.—From the description of labour conditions given above, the state of agriculture may be inferred. It is deplorable, and scarcely a trace remains of the former agricultural prosperity of the country. On the average of the years 1905-14 only one strictly agricultural export, namely, cacao, exceeded £100 in annual value; nor did that one amount to more than £629 (see Appendix, Table III). Yet with its fertile soil and ideal climatic conditions the colony can grow to perfection almost every sort of tropical crop, and it has been said that “no other colony, no other country in the world, possesses in a more marked degree the conditions essential to great agricultural production.”¹ The collapse of agriculture is due to the emancipation of the slaves, which deprived it of labour, and to the discovery of gold, which diverted capital to the placers. Valuable crops of sugar, cacao, coffee, dyes, and spices used to be grown, and might be produced again. In 1836 the export of agricultural products amounted in value to about £133,000; nearly 4,000 acres were devoted to sugar-cane, over 1,000 acres were under coffee, and considerable areas were planted with cacao, dyes, and spices. Of these crops cacao alone has preserved a semblance of its former greatness; the other crops have practically gone out of cultivation; there is no export, or none worth mentioning, of sugar, coffee, spices, or rum; the raw material of such rum as is manufactured is mostly imported from British Guiana, Surinam, or the West Indian Islands; and a few small holdings of trifling extent, worked by feeble hands, barely contrive to produce enough ground provisions and fruits to meet the slender demands of a scanty population. Manioc and rice are the principal crops grown; maize, yams, arrowroot, bananas, and bread-

¹ E. Bassières, *Notice sur la Guyane*, quoted by A. Dangois. *Autres Notes et Nouvelles Études*.

fruit are also obtainable; and market-gardens near Cayenne produce indigenous vegetables and a few European ones acclimatized in the colony.

There are botanical gardens and an experimental nursery in the colony, and a Chamber of Agriculture was established in 1888.

Live-stock.—Stock-raising and dairy-farming are in no better case. The colony does not lack good pastoral lands; cattle, horses, and pigs can do well on the extensive savannahs; and the few persons who are interested in the industry have earned good returns. Yet, generally speaking, the industry is completely neglected, and nearly the whole of the live-stock, meat, milk, butter, and cheese required in the colony is derived from importation. In existing conditions, the want of capital and labour and the defective communications between the prairies of the interior and the chief places of settlement on or near the coast are obstacles to the development of the pastoral industry; but in its great natural resources the country has potentialities for the creation of a new source of wealth.

The communes of Macouria, Kourou, Sinnamari, and Iracoubo pay some attention to stock-raising, and their contributions to Cayenne's meat market show a tendency to increase. The herds of the colony were seriously depleted by an epidemic of fever in 1904-05, but more than 200 animals were introduced from British Guiana in 1906, and their influence upon breeding has been beneficial. Such dairy-farming as exists is carried on chiefly in Cayenne Island, but the high price of milk in the capital is a sure indication of its scarcity. The country is practically without sheep or goats, but there are a good many swine in the Malmanouri district and in one or two other localities. Though no pains are taken in breeding them, the local horses are sturdy and strong, and are capable of performing useful service under the saddle and in the shafts.

(b) Forestry

Though it cannot be said that the exploitation of forests is in any sense proportionate to the possibilities of the situation, yet it occasions a greater activity than anything to be found in the agricultural and pastoral spheres. After declining for years under the adverse influences of insufficient capital, lack of labour, and defective communications, the forest industry has achieved a partial revival during recent times under the stimulus of modern commercial demands, and forest exports increased in value from £9,142 on the annual average of the period 1905-09 to £56,065 on the annual average of the next quinquennial period. These exports consist of rosewood essence, balata, and timber, with mean values respectively of £21,949, £8,075, and £2,580 for the period 1905-14.

Though the trees from which rosewood essence is obtained—classified botanically as *Licaria guianensis*—are scattered all over the colony, the systematic utilization of their resources is of recent occurrence, and may be said to have begun in 1900, when a Grasse house erected at Sinnamari a factory which has since been transferred to Cayenne. There are now five firms with factories in full work, and their output, which had already been quadrupled in a few years, doubled again from 1910 to 1913. There seems to be no valid reason why the industry should not achieve a continued expansion, provided that it can attract European capital. Not only are the trees common, but the wood can, without undue difficulty, be transported in small craft to factories established on the navigable parts of the rivers; and since a ton of wood, costing about £3 in Cayenne, yields about 22 lbs. of essence, worth £11 in France, there is an ample margin of reward for the activities of the manufacturer.

Balata, a gum obtained by bleeding the balata or bullet tree, has acquired importance by reason of the growing scarcity of gutta-percha, for which it is an

excellent substitute in all the commercial uses to which that article is applied. Long exported from British and Dutch Guiana, balata only began to attract attention in Cayenne at the beginning of the present century. Since then, however, the progress of balata-collection has been rapid, and the export, which amounted to £2,154 as the annual average of the period 1905-09, rose to £13,995 as the annual average of the next five years. This result is due in the main to the impetus given to the industry by the discovery of large quantities of balata trees on the Penal concessions on the Lower Marowynne and to their exploitation by convict labour. The operations were remunerative, the example was quickly followed, and concessions multiplied apace. Some regions, especially the Mana, Marowynne, Sinnamari, and Iracoubo districts, are full of balata trees, and the felling of these is an industry which also seems to be capable of extension. Owing to the scattered growth of the trees, however, the difficulty and expense of collection and transport are considerable.

It is owing to these difficulties and to the scarcity of capital that not much use is yet made of the other forest resources, beyond the felling of small quantities of the rarer ornamental woods. In Cayenne, however, as in the rest of the Guianese region, those resources are practically unlimited, and an interminable list might be made of timbers—some of great rarity and value—exhibiting every colour from white through crimson and brown to black, and every quality of hardness and suppleness, of resistance and elasticity; of woods suitable for ship-building and for lock and wharf work, for house-building, wheelwright's work, carpentry, and cabinet-making; of tanning, dyeing, textile, and medicinal materials; of scents, resins, and gums; and of edible, illuminant, soap-making, and grease-making oils. But no rational exploitation of this great wealth is possible in the prevailing conditions of labour, capital, and means of communication, and the forests will yield their treasures only when they are attacked by companies commanding

large resources, employing mechanical inventions, and able to draw upon considerable labour reserves.

The lands upon which forest industries are conducted are the domain of the State, and the exploitation is governed by a decree of July 2, 1914, which fixes the areas of concessions, the rents payable for them, and so on.

Three steam sawmills are worked by the Penal Establishment, and there are two in private ownership.

(c) *Land Tenure*

All unoccupied lands in the colony and all other lands to which private persons are unable to establish a title are deemed to be the domain of the State. Private property in land, so far as it exists, is governed in the main by the prescriptions of the Code Civil. The domain is governed by a decree of December 11, 1908, which regulates the various methods of alienating it, which may be by sale or lease, by public auction or private contract, and in small or large parcels. Free grants of small holdings, subject to improvement conditions, are made to intending settlers, who may acquire a further area up to a maximum of 250 acres upon payment either of a purchase price by instalments or of an annual rent. Such land may not be alienated without permission, may be resumed for the purpose of public works, and carries no rights in the subjacent minerals. Mining and forest exploitation is carried on under a system of concessions.

(3) FISHERIES

Fish are plentiful and varied in the sea, the rivers, and the lakes of the country, but fishing is not turned to full account, and the Cayenne markets would be without fish if it were not for the spasmodic activities of the Annamites at the mouth of the Laussat Canal. In the interior fresh-water fish form an important item in the dietary of the people, the Bush negroes being particularly adroit fishermen. Isinglass is

exported to an annual value of about £400. There is a considerable import of salt fish, owing to the climatic difficulties in curing fish caught locally, the impossibility of supplying the interior with fresh sea-fish, and the prevailing scarcity of labour.

(4) MINERALS

Gold, phosphates, silver, copper, lead, tin, mercury, iron, china clay, the chalcedony, the topaz, the amethyst, and garnets are found, and geologists infer from the structure of the country that diamonds must exist in the colony as they do in British Guiana; but no diamonds have yet been discovered, and of the minerals mentioned only the first two are worked.

(a) Gold

Discovery and Output.—Gold was first discovered in the valley of the Approuague in 1853, and for upwards of half a century gold-mining has not only been by far the most important industry of the colony, but has completely dominated its economic life. The discovery occurred just at the moment when the agricultural plantations had been ruined by the abolition of slavery and by the fall in the prices of colonial products under the stress of foreign competition, and it resulted in the diversion to mineral exploitation of the whole economic force of the colony. A gold fever seized upon and held the population, as discoveries of the precious metal were made in one district after another—in the valleys of the Orapu and Comté, of the Sinnamari and Mana (1878 and 1879), of the Marowynne (1889), at Carsewène in the territory disputed with Brazil (1893), and finally in the basin of the Inini (1902). Under the influence of the discoveries production rapidly increased, and the export of gold, beginning with a modest 250 oz. in 1856, rose from 2,900 oz. in 1860 to 6,600 oz. in 1864, 46,000 oz. in 1874, about 63,000 oz. in 1884, and over 155,000 oz. in 1894. Then production (see Appendix, Table I) began to decline, and although

once again stimulated by the discovery of the exceptionally rich Inini deposits, export is not now on the level of former years. On the average of the period 1905-09, the annual export of gold was 125,784 oz., of the value of £422,530, and for the succeeding period 117,276 oz., of the value of £393,753. The mean annual export (1905-14) was 121,530 oz., valued at £408,142, at which figure it accounts for nearly 90 per cent. of the total export trade of the colony (see Appendix, Table III). The total production from 1853 to 1915 has been estimated at about 3,750,000 oz., worth approximately £13,300,000.

Methods of Extraction.—In the alluvial deposits, which may be of present or former streams, the gold is usually found in clay under pebbles and gravel. The methods of extraction are primitive. The prospector first tests the deposit *à la batée* (panning)—that is, he washes samples of soil in a shallow round dish. No ground is considered worthy of further attention which may not be classified as of the value of “deux sous à la batée,” or possessing a gold content of about 11s. per cubic yard, and then only when the area of this richness is proved to be of considerable extent. When the site has been decided upon, huts for the workmen are built, the ground is cleared by felling and firing the timber, the barren soil which covers the payable strata is removed, the creeks are dammed for the purpose of draining the workings, water for the washing apparatus is brought in by a small canal, and a sluice is constructed of wooden troughs which fit into one another and are suspended from stakes or carried on trestles, its inclination varying with the nature of the material which is to be passed through it. Through this apparatus the ore-bearing soil is washed, stones being picked out as they pass along, lumps of clay broken up, and the whole mass stirred with rakes to assist disintegration. As the material passes, the gold is deposited by virtue of its weight in recesses formed by the transverse and longitudinal bars or gratings with which the bottoms

of the troughs are lined, and which are primed with quicksilver to facilitate the capture of the gold. At the end of the day the sluice is carefully cleaned out, the deposit sifted, the mercury rendered volatile by the application of heat, and the gold recovered.

The merits of this method of extraction are that it requires only small capital support, does not demand a large labour force, and reduces to a minimum the supply of those essential appliances which are so difficult to transport to the interior. It can be undertaken equally well by a rich company operating over a large area and by a handful of associated workmen with the most slender equipment. Many of the placers are, in fact, worked by a class known as "marauders," who correspond to the "pork-knockers" of British Guiana and have also their counterpart in Surinam. The "marauder" sometimes works on a concession under license from, and tribute to, its lawful owner, but, as often as not, his method of procedure is to furnish himself with a permit for a specified area and then to work outside it on any unoccupied land that promises good results. It must be recorded to his credit that he has thus been the means of discovering some of the richest fields. His worst feature is that he invariably contrives, if working for pay, to swindle his employer, and, if working on his own account, to smuggle his winnings out of the country without declaring them for the payment of dues, in either case damaging the industry by making capital timid and by keeping dues at a level which need not be maintained if the whole output of the fields were declared. Nor are his frauds always prompted by the comparatively venial motive of fiscal evasion. The *Rapport Annuel* for 1915 coupled the illegalities of the marauder with

"the supreme interest of the Germans and their agents in buying up gold and balata for despatch to Germany. To achieve this result they leave no stone unturned. They send emissaries to the centres of production to offer high prices. They even go so far as to supply the producer with his necessities at low prices. Accordingly some producers, foreigners or 'marauders,' are tempted by the prospect of pecuniary and

material advantage to accept their offers and dispose of their products abroad. 'These are mercilessly hunted down by the Custom House officials.'

The salient defect in the prevalent method of extraction by sluice-washing is that only the richest ground can be worked, and that by reason of the speed at which he proceeds, coupled with the imperfection of his appliances, the digger almost certainly fails to recover a certain amount of gold from the soil which he handles, and not improbably misses altogether some of the richest ground. Imperfect though it may be, however, the sluice method has accounted for by far the larger part of the gold won in French Guiana. The great hopes formerly entertained of dredging and reef-mining have been fulfilled imperfectly in the one case and scarcely at all in the other. Much larger quantities of soil, and therefore soil of a poorer quality, can be handled in the dredging machine than in the sluice, and its operating expenses are low, since it requires but a small staff and can be fed with fuel which may be got for nothing in unlimited quantities in the bush. The dredge can operate in the large rivers as well as in the small creeks. Several attempts to establish dredging in the colony have, however, been attended by misfortune, and it is only within recent years that some success has been achieved in dredging operations undertaken in the Middle Sinnamari and Oyapok valleys, and in others initiated on the Upper Mana by the Mana Syndicate and by the Société Minière et de Dragages de la Guyane (Placer Elysée). Quartz reefs have also been found disappointing, though rich ones are known to exist, and the one company which was still engaged in quartz-crushing in 1913 has since closed down. Yet it has been said, and probably with truth, that the mining industry will witness expansion only when machinery can take the place of the human hand.

Since the placers attract the entire able-bodied population of the country, as well as a certain number of workmen from neighbouring lands, scarcity of

labour is less pronounced in the goldfields than in other spheres; but labour is not superabundant, is never cheap, and in times of excitement consequent upon a new discovery is exceedingly dear. A much more serious obstacle to the success of the industry is the difficulty of communications. The placers are for the most part far distant from the coast; they can be reached only by rivers barred by numerous and dangerous rapids; the journey to them may occupy three weeks or even a month; machinery can scarcely be got to them; and the freight of ordinary supplies stands at an exorbitant level. In these circumstances the execution of one of the projected schemes for constructing a railway to the interior is much to be desired in the interests of the mining industry, the fortunes of which it might profoundly affect. "At present," said a Governor of the colony some years ago, "gold is worked in a very small part of Guiana. A map of the placers is a series of dots scattered over, and lost to sight in the midst of, a huge white background representing the country as yet untouched. Yet, according to the experts, our deposits are among the richest in South America. If it be remembered, too, that gold has so far only been worked by the most rudimentary processes, it may be asked to what the revenues of the colony would amount, should success be achieved in stimulating production and generally in developing this industry, for which nothing has yet been done."

Mining Laws.—The mining law is contained in a decree of March 10, 1906, which consolidated and amended existing legislation. Framed when the small digger was unknown, that legislation had ceased to be in harmony with prevailing conditions; it allowed a latitude of which the "marauder" shamelessly availed himself. This defect is now remedied, so far as a remedy can be applied, by legislative enactments which the Government is not in a position adequately to enforce. Every individual, and every company constituted under the French laws, may search for and work minerals under concession from the State. The

principal companies are the Société de Saint-Elie, the Société Minière et de Dragages de la Guyane, the Compagnie Coloniale de Dragages, the Compagnie Française des Mines d'Or du Maroni, and the Mana Syndicate. All are French, and all the placers of the colony are in French hands, though employing some foreign labour, chiefly from British colonies, and in one case including a personnel of mechanics from Italy. Gold pays 10 francs a kilogramme (about 3*d.* an ounce) on declaration at Cayenne and an export due of 8 per cent. *ad valorem*. The imposition of lighter dues in Dutch Guiana, coupled with imperfect supervision and the difficulty of policing a neutral frontier river, encouraged the fraudulent evasions which have already been noticed, and which, in the opinion of some writers, have been so considerable as to deprive of all relation to reality the official estimates of production. An arrangement for the supervision of the Marowynne was effected by a convention between France and Holland signed in 1905.

In 1901 a consultative Committee was established, to assist the Government in mining matters. It is composed of official, technical, commercial, and elective elements.

(b) *Phosphates*

On Grand-Connétable Island there are deposits of phosphatic rock, which have been worked for many years by an American company. The mean annual value of the output during the years 1905-14 was £10,930, but the deposit appears to be nearing exhaustion, and production in the second half of the period was not much above one-half what it had been in the first.

(5) MANUFACTURES

The extraction of rosewood essence, already described (see above, p. 35), is the most important manufacture

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of the colony. Next to it comes the manufacture of rum. The chief distillery belongs to the Penal Administration, and is situated on their domain at Saint-Maurice. Its product, which was valued at £2,400 in 1914, has a great local reputation, and a French house has lately offered to take the whole of it for shipment to Europe. At Mana a small distillery is worked by the Sœurs de Saint-Joseph de Cluny, the raw material being derived exclusively from their own cane fields, but those fields are less than 20 acres in extent, and the output of this distillery is insignificant. The five distilleries in private ownership in Cayenne are obliged to obtain their raw material from abroad, mostly from British Guiana and the French West Indies. Local demands are largely met by importation from abroad. There are three ice factories, two at Cayenne and one at Saint-Laurent. The Government of the colony owns four brickfields; one has lately been started by the Penal Administration near Saint-Maurice; and there are two, privately owned, in the suburbs of Cayenne. The raw materials of this industry are found throughout the colony, and bricks sell at remunerative prices. A little earthenware pottery, some baskets, and the hats peculiar to the women of the country are or were produced by local effort.

(6) POWER

The innumerable falls in the rivers of the country provide opportunities for generating electric power, and such power might apparently be utilised with advantage in supplying the motive force for railways, sawmills, mining machinery, &c.

(C) COMMERCE

(1) DOMESTIC

The import houses and retail shops of the colony deal in varied collections of goods, and there is little or no specialisation. Import and export trade are carried on through agents, who as a rule are themselves merchants. In return for a commission they undertake sales and purchases on account of their Guianese correspondents, arrange their freights, and so on. The usual commission is 5 per cent. on imports from Paris and 3 or 4 per cent. on those from Bordeaux, Nantes, and Marseilles, and in the case of exports $\frac{1}{4}$ per cent. on gold and 3 per cent. on rosewood essence, isinglass, and most other articles. Imports are paid for either in gold from the placers, or in bills of the Banque de la Guyane, or to a limited extent by the shipment of colonial produce. Cayenne is the centre of the colony's commercial life, but Saint-Laurent has been growing in importance, mainly by reason of the rich goldfields discovered on the Upper Marowyne, and many Cayenne houses have opened branches there.

There is a Chamber of Commerce at Cayenne, instituted in 1881 and composed of elected members. Its attributes are of two kinds: those which pertain to it as the official organ of commerce—it advises the Government in all commercial matters—and those belonging to it as the trustee of commercial interests.

(2) FOREIGN

(a) Exports

Quantities and Values.—Exports amounted to £440,731 as the annual average of the period 1900-14 (see Appendix, Table II), during which period they exhibited a small tendency to increase. Though slightly exceeding the imports on the average of the years 1910-14, they are, on the whole, inferior to them in value.

Amongst the exports gold predominates, and accounts for nearly 90 per cent. of the total export trade. Other exports are rosewood essence, about 5 per cent. of the total exports; phosphate and balata, respectively a little over and under 2 per cent.; plumes and skins, about 1 per cent.; and timber, about $\frac{1}{2}$ per cent. The export of cacao, isinglass, coffee, and rum attains merely to insignificant proportions. Exports of rosewood essence, balata, and timber show increases on a comparison of the annual average for 1905-09 with that for 1910-14; the movement of the gold export is retrograde; and the exports of phosphate rock and of plumes and skins show sharp declines. The quantities and values of the principal exports will be found in the Appendix, Table III.

Countries of Destination.—France is the largest purchaser of the colony's products, and took about 66 per cent. of the exports on the average of the period 1905-14 (see Appendix, Table V); Switzerland took 30 per cent.; British Possessions took 2 per cent.; and the United States took 1 per cent. On a comparison of the annual average for 1905-09 with that for 1910-14, it will be seen that the trade with Switzerland and that with British Possessions showed considerable increases, while that with France showed a great decline. Gold is exported to Switzerland, and phosphates to the United States and Great Britain. Some of the exports credited to British Possessions in the official statistics are really destined for the United States by trans-shipment in a British colony.

(b) Imports

Quantities and Values.—Imports were of the value of £463,491 on the annual average of the period 1900-14 (see Appendix, Table II). They exhibit fluctuations, with a tendency to increase.

The principal articles imported (see Appendix, Table IV) are farinaceous substances, which account for 16 per cent. of the import trade; liquors constitute

14 per cent.; textiles, 11 per cent.; colonial produce, machinery and metals, and meat, each about 7 per cent.; live stock, $5\frac{1}{2}$ per cent.; leather goods and milk, cheese and butter, over 3 per cent.; and vegetable oils and essences, and salt fish, rather under 3 per cent. None of these shows any marked tendency to increase. Decreases have occurred in liquors, textiles, machinery and metals, and live-stock.

Countries of Origin.—France and her colonies furnished 70 per cent. of the imports on the average of the period 1905-14 (see Appendix, Table V), the United Kingdom and British Possessions furnished 17 per cent., and the United States furnished 7 per cent. No marked changes seem to be taking place in the relative values of the imports from these countries, of which further particulars will be found in the Appendix, Table VI. As in the case of exports, the share of the United States in the trade is larger than would appear from the official statistics, many of the imports there attributed to British colonies being really goods of American origin, which cannot be shipped direct for want of through communications. Thus in 1914, when imports of salt meat to the value of £350 only and of flour to the value of £1,200 were credited to the United States, her trade under those headings really amounted to over £25,000.

(c) Customs

The tariff system in force was created by decrees of January 11, 1893, and March 29, 1910. According to it, goods of foreign origin pay the same duties as in France, but there are certain specified exceptions. Unless specifically exempted, all goods that enter, whether liable to import dues or not, pay *droits de consommation*, and also the *droits d'octroi de mer* which are levied for the benefit of the communes; and there are tonnage and pilotage dues, &c., in addition.

Salt meat, fish, flour, maize, rice, common woods, petrol, and some other articles are exempt from customs dues, and arms and ammunition, ice and ice-

making machinery, agricultural and mining machinery and tools, and some other imports are exempt from *droits de consommation*.

Gold, as already mentioned, pays a duty of 8 per cent., *ad valorem*, on exportation from the colony.

(D) FINANCE

(1) *Public Finance*

Expenditure tends to exceed revenue, and in order that the colonial budget may balance, recourse is had either to subventions from the home Government or to withdrawals from the colonial reserve fund, or partly to one source and partly to the other. During the period 1900-07 the average annual revenue and expenditure were as follows:—

(a) *Revenue*

	£
Direct taxation	7,499
<i>Droits de consommation</i> ...	22,764
Customs dues	12,277
Other indirect taxation ...	61,609
Domain revenues, &c. ...	9,217
Withdrawals from reserve ...	6,174
Subventions	3,125
Miscellaneous	14,383
Total	£137,048

(b) *Expenditure*

	£
Public works	24,418
Justice, police, &c.	15,946
Education	10,348
Relief	10,240
Government, treasury, &c. ...	9,812
Customs	9,413
Post Office	3,789
Miscellaneous	47,195
Total	£131,161

As regards the communes, to which the *droits d'octroi de mer* are allocated, it cannot be said that their financial position is one of stability, for with the exception of Cayenne and Sinnamari, which have accumulated reserves with which to encounter bad times, none of them is able to meet its expenditure when anything untoward occurs to reduce its revenue.

(2) Currency

Cayenne was one of the first colonies to make use of the metric system, the Revolutionary laws by which that system was constituted being applied to the colony by an ordinance of 1820. The monetary system of France is thus in force in Cayenne, and French money alone is legal tender with the exception of the notes of the Banque de la Guyane and of a local 10 centime piece called the *sou marqué blanc*. The money in circulation consists of gold pieces of 20 francs and 10 francs; 5 franc pieces in silver; silver small change, mostly French, but some of it Belgian, Greek, and Swiss; French 10 and 5 centime pieces in base metal; the *sou marqué* with a conventional value of 10 centimes; and notes of the local bank.

Bank notes circulate freely, and constitute the principal medium of exchange. Before the outbreak of war the note issue was limited to 2,500,000 francs. From August 1914, however, a larger note issue had to be authorised by reason of considerable advances made by the bank on the security of raw gold, balata, and rosewood essence, and of the fact that almost the whole coinage was accumulated in the reserves of the bank and the local Treasury; and by September 1915, the note circulation had been raised by successive increases to 3,000,000 francs.

Gold and silver coins tend to become more and more scarce, in spite of a rigorous prohibition of export, but in consequence, it is believed, of the taxes and charges which affect money orders and drafts. There is in circulation a sum of £6,000 in *sous marqués*, which resemble the "bit" of British Guiana in that they are

the favourite coin of the proletariat and the only standard of value in which its members can readily reckon. Officially, however, it is considered that the withdrawal of this little coin would be a measure of progress, and that nothing can justify the retention in circulation of a coin with so few advantages and so many drawbacks. In the first place, the *sou marqué* enjoys the anomalous privilege of being legal tender up to 1,000 francs, whilst French copper need not be received to an amount over 5 francs. Secondly, it represents the monetary unit in small transactions, to the exclusion of the real *sou* or 5 centime piece, and thus contributes to make living expensive. Lastly, it was coined a century ago, and is now a dirty, insani-
tary, and featureless metal disc, so easily counterfeited that the country is full of spurious *sous* made out of the metal of petrol cans.

(3) *Banking*

The Banque de la Guyane was established by decrees of 1849, 1851, and 1854. Its capital, originally fixed at 300,000 francs, was doubled in 1863, then reduced for a short time to 400,000 francs, and finally restored to 600,000 francs in 1875. It is in a privileged position, and enjoys an exclusive right to issue notes. Its bearer notes of 5, 25, 100, and 500 francs are legal tender throughout the colony. The bank is prosperous, and pays good dividends. It advances money for agriculture and other purposes, and makes loans on the security of agricultural, forest, and mineral products; and, in view of the assistance which is thus rendered, the Chamber of Agriculture has formed the opinion that there is no need for a system of co-operative credit banks.

NOTE

Some further remarks about present conditions and future prospects in Cayenne will be found in *Introduction to the Guiana Colonies*, No. 134 of this series, pp. 10-13.

APPENDIX

(A) EXTRACTS FROM TREATIES, &c.

I.—TREATY BETWEEN FRANCE AND PORTUGAL

Signed at Utrecht, 11th April, 1713

ARTICLE VIII

In order to prevent all possibility of discord which might arise between the subjects of the Crown of France and those of the Crown of Portugal, His Most Christian Majesty will renounce for ever, as he renounces by the present Treaty, in the strongest and most authoritative terms, and with all the necessary clauses, as if this were herein inserted, as well in his name as in that of his heirs and successors to all rights and pretensions, which he may or might pretend over the territories of Cap du Nord, and situated between the River Amazonas and that of Japoc or of Vincent Pinson, without reserving to himself or retaining any portion of the said territories, so that they may henceforth be possessed by his Portuguese Majesty, his heirs, and successors, with all the rights of sovereignty, of absolute power, and entire dominion as forming part of his States (*Hertslet*, vol. 3, App., p. 1988).

II.—TREATY OF MADRID BETWEEN FRANCE AND SPAIN AND PORTUGAL, 29th September, 1801

ARTICLE IV

. . . les limites entre les deux Guyanes française et portugaise seront réglées, de manière qu'elles suivront le cours de la rivière Carapanataba jusqu'à sa source, d'où elles se porteront vers la grande chaîne de montagnes, qui fait le partage des eaux, et dont elles suivront les inflexions jusqu'au point où cette chaîne se rapproche le plus du Rio Blanco.

III.—TREATY OF PARIS, 30th May, 1814

ARTICLE X

Her Most Faithful Majesty, in virtue of the arrangements stipulated with her Allies, and in execution of the VIIIth Article, engages to restore French Guiana as it existed on the 1st January, 1792, to His Most Christian Majesty, within the term hereafter fixed.

The renewal of the dispute which existed at that period, on the subject of the frontier, being the effect of this stipulation, it is agreed that the dispute shall be terminated by a friendly arrangement between the two Courts, under the mediation of His Britannic Majesty.

See also Final Act of Congress of Vienna, Article CVII, 9th June, 1815.

IV.—CONVENTION BETWEEN FRANCE AND PORTUGAL

Signed at Paris, 28th August, 1817.

ARTICLE I

His Most Faithful Majesty, animated by the desire to execute Article CVII of the Act of the Congress of Vienna, engages to restore to His Most Christian Majesty, within the delay of three months, or sooner if possible, French Guiana, as far as the River Oyapock, the mouth of which is situated between the 4th and 5th degrees of north latitude, and as far as the 322nd (*sic*) degree of longitude, to the east of the Ile de Fer, by the parallel of 2 degrees 24 minutes of north latitude.

ARTICLE II

Immediate steps shall be taken to appoint and send out Commissioners to fix the limits of the French and Portuguese Guianas, in conformity with the precise sense of Article VIII of the Treaty of Utrecht, and to the stipulations of the Act of the Congress of Vienna, the said Commissioners shall terminate their labours within the delay of one year at latest from the day of their meeting in Guiana. If, at the expiration of the term of one year, the said respective Commissioners should not have come to an understanding, the two High Contracting Parties shall come to some other amicable arrangement, under the mediation of Great Britain, and always in conformity with the precise sense of Article VIII of the Treaty of Utrecht, concluded under the guarantee of that Power (*Hertslet*, vol. 1, pp. 5, 30).

For Article VIII of the Treaty of Utrecht see above, No. I.

V.—TREATY OF ARBITRATION BETWEEN FRANCE AND BRAZIL

Signed at Rio, 10th April, 1897

Le Gouvernement de la République des États-Unis de Brésil et le Gouvernement de la République française, désirant fixer définitivement les frontières de Brésil et de la Guyane française, sont convenus de recourir dans ce but à la décision arbitrale du Gouvernement de la Confédération suisse. L'arbitre sera invité

à décider quelle est la rivière Japoc ou Vincent Pinson, et à fixer la limite intérieure du territoire. . . .

ARTICLE I

La République des États-Unis de Brésil prétend que, conformément au sens précis de l'Article VIII du Traité de Utrecht, la rivière Japoc ou Vincent Pinson est l'Oyapoc qui débouche dans l'océan à l'ouest du Cap d'Orange. La République française prétend que . . . la rivière Japoc ou Vincent Pinson est la rivière Araguay (Araouary), qui débouche dans l'océan au sud du Cap Nord.

In the following Articles the French lay claim to the *kinterland* assigned to France by the Treaty of Madrid in 1801 (see above, No. II).

The arbitral decision by the Swiss Federal Council was given (1899) in favour of the Brazilian (Portuguese) pretensions and claims.

(B) STATISTICS

TABLE 1.¹—GOLD MINING STATISTICS, 1900-1915.

Year.	Concessions.	Area.	Production.	
	No.		Oz.	£
1900	133	148,025	76,454*	256,875
1901	496	268,088	129,278*	434,315
1902	423	461,037	149,340*	501,766
1903	234	205,794	129,728*	435,596
1904	204	160,538	110,500*	371,233
1905	—	207,964	114,745	385,448
1906	463	789,393	112,645	378,396
1907	468	715,120	133,748	449,284
1908	277	719,498	131,755	442,590
1909	188	622,309	121,750	408,940
1910	164	601,476	123,770	462,000
1911	188	571,184	121,779	409,078
1912	207	580,094	133,187	447,398
1913	213	597,500	123,237	404,231
1914	300	551,606	97,178	326,440
1915	302	481,978	109,295	364,980

¹ *Statistiques de l'Industrie Minière dans les Colonies Françaises*. Conversion at the following rates:—2·471 acres to 1 hectare; 31·1035 grammes to 1 ounce troy; and 25 francs to £1.

* Approximate figures.

TABLE II.¹—EXPORTS, IMPORTS, AND TOTAL VOLUME OF TRADE, 1900-14.

	1900	1901	1902	1903	1904
	£	£	£	£	£
Exports	259,867	341,546	479,368	493,216	426,128
Imports	358,106	449,063	367,361	418,723	478,470
Total	617,973	790,609	846,729	911,939	904,598
	1905	1906	1907	1908	1909
	£	£	£	£	£
Exports	397,577	419,952	493,268	514,061	464,943
Imports	457,575	581,950	560,523	486,778	488,945
Total	855,152	1,001,902	1,053,791	1,000,839	953,888
	1910	1911	1912	1913	1914
	£	£	£	£	£
Exports	462,686	476,145	484,700	488,901	408,605
Imports	489,337	450,533	434,252	499,791	430,957
Total	952,023	926,678	918,952	988,692	839,562
Annual Averages.	1900-04	1905-09	1910-14	Mean.	
	£	£	£	£	
Exports	400,025	457,961	464,207	440,731	
Imports	414,345	515,154	460,974	463,491	
Total	814,370	973,115	925,181	904,222	

¹ *Statistiques du Commerce des Colonies Françaises.* Conversion at the rate of 25 francs to £1.

TABLE III.—PRINCIPAL ARTICLES OF EXPORT, 1905-14.

		Annual Averages.		Mean.	Per-centage
		1905-09.	1910-14.		
Balata	{ lb.	41,367	254,894	148,130	
	£	2,154	13,995	8,075	1·75
Cacao	{ cwt.	251	352	302	
	£	534	725	629	·13
Coffee	{ cwt.	12	10	11	
	£	88	74	81	·02
Gold	{ oz.	125,784	117,276	121,530	
	£	422,530	393,753	408,142	88·52
Isinglass	{ lb.	6,750	7,685	7,217	
	£	369	426	397	·09
Phosphate Rock..	£	14,097	7,762	10,930	2·38
Plumes and Skins	£	7,061	1,772	4,416	·96
Rosewood Essence	£	6,372	37,525	21,949	4·77
Rum	{ gals.	663	290	476	
	£	48	24	36	·01
Timber	£	616	4,545	2,580	·54
Other Exports ..	£	578	304	441	·09
Trans-shipments..	£	3,514	3,302	3,408	·74
Total	£	457,961	464,207	461,084	100·00

¹ *Statistiques du Commerce des Colonies Françaises.* Conversion at the following rates: 31·1035 grammes to 1 ounce troy; 50 $\frac{1}{2}$ kilogrammes to 1 cwt.; 100 litres to 22 gallons and 25 francs to £1.

TABLE IV.¹—PRINCIPAL ARTICLES OF IMPORT, 1905-14.

	Annual Averages.		Mean.	Per-centage.
	1905-09.	1910-14.		
	£	£	£	
Animal Fats	6,331	3,932	5,132	1·05
Building Materials	8,346	7,584	7,965	1·63
Colonial Produce	38,681	33,046	35,863	7·35
Farinaceous Substances	78,655	79,719	79,187	16·23
Firearms and Powder	4,823	5,395	5,109	1·05
Leather Goods	16,018	15,568	15,793	3·24
Liquors	75,878	63,545	69,711	14·28
Live-stock	30,404	23,433	26,918	5·52
Machinery and Metals	40,562	29,817	35,190	7·21
Meat	34,350	32,369	33,359	6·84
Milk, Cheese and Butter	18,784	17,423	18,104	3·71
Paper and Paper Goods	5,034	6,207	5,621	1·15
Petrol and Paraffin	4,391	5,412	4,902	1·00
Salt Fish.. ..	12,458	11,210	11,834	2·42
Textiles	57,274	50,934	54,104	11·08
Vegetable Oils and Essences	12,190	13,782	12,986	2·66
Other Imports	70,975	61,598	66,286	13·58
Total	515,154	460,974	488,064	100·00

¹ *Statistiques du Commerce des Colonies Françaises.* Conversion at the rate of 25 francs to £1.

TABLE V.1.—TRADE WITH THE PRINCIPAL COUNTRIES, 1905-14.

	Exports. ³			Imports.			Total Trade.	
	Annual Averages.		Per-centage.	Annual Averages.		Per-centage.	Mean.	Per-centage.
	1905-09. 1910-14.			1905-09. 1910-14.				
	£	£	£	£	£	£	£	£
France ..	342,962	259,304	301,133	350,703	301,895	326,299	627,432	66·35
French Possessions..	255	479	367	15,494	18,510	17,002	17,369	1·83
Switzerland ..	96,723	181,002	138,862	685	148	416	139,278	14·73
United Kingdom ..	366	2,117	1,242	3,629	14,938	9,284	10,526	1·11
British Possessions..	5,233	10,854	8,044	84,284	66,061	75,172	83,216	8·80
United States ..	4,619	5,118	4,868	40,520	28,597	34,559	39,427	4·17
Dutch Possessions ..	2	1,865	934	8,925	10,773	9,849	10,783	1·14
Other Countries ..	4,287	166	2,226	10,914	20,052	15,483	17,709	1·87
Total ..	454,447	460,905	457,676	515,154	460,974	488,064	945,740	100·00

¹ *Statistiques du Commerce des Colonies Françaises.* Conversion at the rate of 25 francs to £1.² Excluding transit trade.

TABLE VI.¹—IMPORTS: COUNTRIES WHENCE SHIPPED,
1905-14.

	Average Annual Value, 1905-09.	Average Annual Value, 1910-14.	Mean.	Percentage of total Import of Commodity.
France—	£	£	£	
Arms and Ammunition ..	4,760	5,294	5,027	98·39
Building Materials, Mineral Oils, &c. ..	6,726	4,568	5,647	43·89
Colonial Produce ..	23,781	19,846	21,813	60·83
Farinaceous Substances ..	38,261	39,458	38,860	49·07
Fish ..	9,940	8,040	8,990	75·97
Leather Goods ..	15,637	15,401	15,520	98·28
Liquors ..	62,502	46,085	54,293	77·88
Machinery and Metals ..	34,397	24,192	29,294	83·24
Milk, Cheese, &c. ..	13,648	12,541	13,094	72·31
Paper and Paper Manu- factures ..	4,950	6,125	5,538	98·50
Salt Meat, &c. ..	14,534	10,952	12,743	38·20
Textiles ..	55,181	48,729	51,955	99·72
Vegetable Oils, &c. ..	7,955	5,602	6,778	52·20
Other Imports ..	58,431	55,062	56,747	—
Total ..	350,703	301,895	326,299	—
French Possessions—				
Colonial Produce ..	7,346	4,339	5,842	16·29
Liquors ..	5,857	10,385	8,121	11·65
Other Imports ..	2,291	3,786	3,039	—
Total ..	15,494	18,510	17,002	—
United Kingdom—				
Liquors ..	316	3,604	1,960	2·81
Machinery ..	119	3,061	1,590	29·34
Textiles ..	956	1,048	1,002	1·85
Other Imports ..	2,238	7,225	4,732	—
Total ..	3,629	14,938	9,284	—

¹ *Statistiques du Commerce des Colonies Françaises.* Conversion at the rate of 25 francs to £1.

	Average Annual Value, 1905-09.	Average Annual Value, 1910-14.	Mean	Percentage of total Import of Commodity.
British Possessions—	£	£	£	
Farinaceous Substance ..	24,207	21,926	23,066	29·13
Liquors ..	6,630	2,525	4,577	6·57
Live-stock ..	26,575	12,642	19,609	72·84
Salt Meat, &c. ..	10,809	10,202	10,506	31·41
Other Imports ..	16,063	18,766	17,414	—
Total ..	84,284	66,061	75,172	—
United States—				
Building Materials ..	3,189	3,219	3,204	24·90
Farinaceous Substances ..	10,536	9,294	9,915	12·52
Salt Meat, &c. ..	8,532	4,465	6,499	19·48
Vegetable Oils ..	2,215	4,771	3,493	26·90
Other Imports ..	16,048	6,848	11,448	—
Total ..	40,520	28,597	34,559	—

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MAP

French Guiana is covered by Stanford's map of *Guiana and Venezuela* (London Atlas Series), in one sheet, scale 83 $\frac{1}{4}$ miles to one inch.

See also *Carte de la Guyane Française*, dressée par Maurice Guffroy. Echelle de 1:500,000. Published by Erhard Fres., Paris [1902.]

FALKLAND
ISLANDS
KERGUELEN

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I. GEOGRAPHY PHYSICAL AND POLITICAL

(1) POSITION AND AREA

THE Falkland Islands consist of a group of two large and about 100 small islands, lying in the South Atlantic about 350 miles east of Magellan Strait. They extend roughly between 51° and 53° south latitude, and $57^{\circ} 30'$ and $61^{\circ} 30'$ west longitude. The Dependencies of the Falkland Islands include all islands and territories south of 50° south latitude and between 20° and 40° west longitude, and also those south of 58° south latitude and between 40° and 80° west longitude. These Dependencies may be divided into two sections, the South Atlantic group, lying north of 60° south latitude, and the Antarctic group, lying south of 60° south latitude. Few of them are well known and most are only roughly charted. The extent of most of the British Antarctic possessions is unknown.

The following are the chief islands and lands included within the area of the Dependencies: (1) South Georgia, a large island lying between 54° and 55° south latitude, and $35^{\circ} 50'$ and $38^{\circ} 15'$ west longitude; (2) the Sandwich group of eight islands, south-east of South Georgia, extending between $56^{\circ} 18'$ and $59^{\circ} 30'$ south latitude, and 26° and $28^{\circ} 15'$ west longitude; (3) the South Orkneys, lying south-west by south of South Georgia between 60° and 61° south latitude, and 44° and $47^{\circ} 50'$ west longitude; (4) the South Shetlands, to the west of the South Orkneys, stretching south-west for over 250 miles; and (5) Graham Land, including the Palmer, Biscoe, and other islands, separated from the South Shetlands by Bransfield Strait. Graham Land is a peninsula of the Antarctic

continent, merging towards the south into a quite unknown region. On the south-east of the Weddell Sea is Coats Land, which includes Caird Coast and Luitpold Coast.

The area of the Falkland Islands is 6,500 square miles; of South Georgia, 1,000 square miles; of the South Shetlands, about 1,000 square miles; of the South Orkneys about 450 square miles; and of the Sandwich group probably not less than 100 square miles. It is impossible to give any accurate estimates for Graham Land, Coats Land, and other parts of the Antarctic continent.

(2) SURFACE, COASTS, AND RIVERS

Surface

The Falklands constitute an undulating plain traversed by low rugged ridges, between which are wide valleys with winding brooks and much boggy ground. The principal range is that of the Wickham Heights in East Falkland, and the highest peaks are Mount Adam (2,315 ft.), in West Falkland, and Mount Osborne (2,245 ft.), in East Falkland. A remarkable feature of the two islands are the so-called "stone rivers," relics of glacial times, which fill the bottoms of many of the valleys with rugged blocks of rock.

South Georgia is traversed by the rugged Allardyce Range, which rises in Mount Paget to a height of 8,383 ft. Most of the valleys are filled with glaciers. The Sandwich group contains at least one active volcano, in Zavodovski Island. Some of the islands have glaciers. The South Orkneys are steep and mountainous, Laurie Island rising to a height of 1,760 ft., and Coronation Island to 5,397 ft. They are so heavily glaciated that only the ridges and peaks and a few narrow beaches are free from ice or snow. The South Shetlands are equally rugged, but are comparatively clear of glaciers; Clarence and Smith Islands, in this group, rise respectively to heights of 4,557 and 6,600 ft. Graham Land and its adjacent islands are steep

and rugged, rising in places to heights of 10,000 ft., but almost all the mainland, except a few coasts and ridges, is covered by an ice-cap.

Coasts

The coasts of the Falklands are mostly low and rocky, and fringed with islets and many dangerous reefs. In the west there are some precipitous cliffs, and there are dangerous tidal currents. All the coasts are deeply indented by long, branching arms of the sea, many of which afford splendid land-locked harbours. Falkland Sound, which divides East and West Falkland, is navigable by large vessels. Among the many good harbours in East Falkland are Port William and Stanley Harbour, Berkeley Sound, Port Salvador, Port San Carlos, Bay of Harbours, Adventure Sound, Choiseul Sound, Port Pleasant, Port Fitzroy, and Port Harriet; of these Stanley Harbour is the chief. In West Falkland there are many large sheltered harbours, but they are little used.

The coasts of South Georgia are very similar to those of the Falkland Islands, but are on the whole steeper. The south-west coast is little known.

The South Orkney coasts are steep, and glaciers descend to the head of the bays.

Graham Land is fringed by steep coasts and glacier faces.

Sea-ice.—The Falklands themselves are outside the limit of floating pack-ice, and icebergs are rare in the vicinity of the islands, but the presence of floating ice in the more southerly seas adds to the already considerable difficulties of navigation.

The seas south of 50° south latitude and east of 55° west longitude, and, farther west, south of about 57° south latitude, normally contain drifting pack and icebergs, although close pack is seldom found north of 60° south latitude, and may recede considerably farther south. Bransfield Strait is most open from December to March, but its eastern end may be blocked in any

month. The west coast of Graham Land and the Bellingshausen Sea are normally open for two or three months in summer, but may even then in bad ice years be unnavigable in parts. The Weddell Sea is probably the most difficult of all Antarctic seas to navigate. There is a general movement of the pack round the shores from east to west, so that the western part is almost always blocked with heavy ice, and is quite impenetrable. From the west this pack drifts north past the South Orkneys into the Southern Ocean. The result is that the Weddell Sea is least difficult to penetrate on its eastern side, and vessels have on occasions got far south on that side without encountering ice. This chance, however, cannot be depended on, and in any case a vessel on reaching the south is very likely to be jammed, and is either crushed or else drifts north and north-west with the pack. The icebergs of the Weddell Sea are often of enormous size.

Rivers

The only rivers are those in the Falkland Islands, and few of them are properly charted.

(3) CLIMATE

The climate of the Falklands at the sea level is cool and equable. The July mean is 37° F. (2.7° C.), and the February mean 50° F. (10° C.). Frost is uncommon. The lowest temperature recorded is 19° F. (-7.2° C.). Wind is almost incessant, north-west winds prevailing in winter and south-west winds in summer. Brief fine intervals occur with light easterly winds. Overcast weather is normal, but the rainfall is not exceptionally heavy. At Stanley it averages 20 in. (50 cm.) a year, and in West Falkland it is probably somewhat more. Snow never lies long on the ground.

South Georgia has a more severe climate, with a July temperature of about 28.5° F. (-2.0° C.) and a January temperature of about 42.5° F. (6.0° C.). Winter lasts from May to September. Precipitation averages the

equivalent of about 50 in. (125 cm.) of rainfall a year, and occurs in all months.

The climate of the Sandwich group is probably not unlike that of South Georgia, though considerably colder. Easterly winds are frequent. The Antarctic Dependencies have a much colder climate, with a summer temperature little if anything above freezing point, and a winter mean varying from about 11° F. (-11.5° C.) at the South Orkneys to about 3° F. (-16° C.) on the east coast of Graham Land (Snow Hill), -2.5° F. (-19.2° C.) on the west coast of Graham Land (Port Charcot), and probably less than 0° F. (-18° C.) in the south of the Weddell Sea.

Precipitation in the Antarctic Dependencies is practically all in the form of snow; the fall is not heavy. At the South Orkneys it averages the equivalent of 15 in. of rainfall a year, but falls on about 250 days in the year. On all the Antarctic coasts the climate depends to some extent on the movements of the pack-ice.

(4) SANITARY CONDITIONS

The climate of the Falklands and South Georgia is healthy, rheumatism and catarrhs being the only common illnesses.

The water supply at Stanley is derived from rain water, and is not very satisfactory, but in South Georgia the glacier streams provide a good supply.

There is a small hospital at Stanley. The medical service consists of two Government surgeons in the Falklands, and in South Georgia one, who is maintained by the chief whaling company.

(5) RACE

The settlers in the Falklands are practically all of British descent, the majority being of Scottish ancestry, though in Stanley stranded sailors and their descendants form an appreciable proportion of the population. Of the floating population which the develop-

ment of whaling has brought to the Falklands and several of the Dependencies, most are Norwegians, but there are also a few Argentines and Chileans.

(6) POPULATION

Distribution

The total population of the Falklands in 1916 was 3,220, of whom about 1,000 lived at South Georgia. The number of males was 2,267, and of females 953. Several hundreds at the South Shetlands are not included in the above-given total, as they stay in the Dependency only from November to April.

Settlements

Stanley, in East Falkland, which is the seat of government, has a population of 900; the other centres of population being merely settlements which consist of a few houses. Particulars of these are given below in the section on Economic Conditions (Towns).

With the permission of the British Government the Argentine Republic maintains a meteorological station on Laurie Island in the South Orkneys, the staff of which is relieved at intervals.

Movement

Apart from the influx of Scandinavian whalers in recent years, the population of the Falklands increases at the rate of about 230 in ten years, which is less than the balance of births over deaths. Many of the younger men leave the colony for Patagonia, and a small proportion of the older people retire to the British Isles. New emigrants are very few.

In 1916 the birth-rate of the whole colony was 16·14 per thousand, and the death-rate 7·14 per thousand. If

the population of South Georgia (almost entirely male) be excluded, the birth-rate for 1916 was 23·4 per thousand, which has been about the average rate for many years.

II. POLITICAL HISTORY

CHRONOLOGICAL SUMMARY

- 1592 Islands sighted by Davis.
- 1594 Hawkins sights "Hawkins's Maiden Land."
- 1599 Sebald de Weert sights "The Sebaldines."
- 1690 Falkland Sound named by Strong.
- 1748 Anson suggests British settlement; Spain protests.
- 1764 Bougainville colonizes Port Louis in the "Malouines."
- 1765 Port Egmont in West Falkland founded by British.
- 1766 French settlement sold to Spain.
- 1770 British occupants of Port Egmont ejected by Spaniards.
- 1771 Restitution agreed to by Spain.
- 1774 British garrison withdrawn, but signals of possession left.
- 1775 South Georgia taken possession of by Captain Cook.
- 1810 The islands deserted.
- 1820 Buenos Aires settlement formed in Falklands.
- 1831 Buenos Aires settlement broken up by the United States.
- 1832-3 British sovereignty established and Port Louis occupied.
- 1843 Falkland Islands become a British Crown Colony.
- 1844 Port Stanley made headquarters.
- 1851 Falkland Islands Company founded.
- 1904 Development of whaling industry in South Georgia.

NAMING OF THE ISLANDS

THE Falkland Islands have been variously named. They are referred to in old books as John Davis's Southern Land or Southern Islands, from their first discoverer. Richard Hawkins called the land he sighted, in 1594, after himself and Queen Elizabeth, "Hawkins's Maiden Land." They gained the name of "The Sebaldines" from the Dutch Sailor, Sebald de Weert, who sighted them in 1599. Captain Strong, who visited the islands in January 1690, named the

wide strait between them Falkland Sound, after Lord Falkland, then Treasurer of the Navy. The name afterwards passed on to the islands themselves; and Woodes Rogers, who visited them in December 1708, spoke of them as Falkland's Land. Woodes Rogers's ship had Dampier on board, Dampier having already sighted the islands in January 1684. The French name for them was "Îles Malouines," after visits from St. Malo ships; and the name was confirmed by the fact that Bougainville's colony started from St. Malo. The Spaniards adopted the French name, and knew them as Las Malvinas.

DISCOVERY AND EARLY HISTORY

In view of the remoteness of these islands it is curious how much history attaches to them and how many well-known names—some already mentioned—occur in their story. The first chapter of the Annual Register for 1771, written at the time of the friction between England and Spain in regard to the islands, tells what was known at that date on the subject. They were marked on old maps of the sixteenth century, and their first discovery was vaguely attributed to Magellan or Vespucci; but the first recorded discovery was made by an Englishman, the Elizabethan sailor John Davis, who sighted them in August 1592. As already indicated, "Hawkins's Maiden Land" is generally identified with the Falkland Islands; but there is no doubt that the Dutchman, Sebald de Weert, sighted the small islands to the north-west of the group.

The history of the islands really begins after Lord Anson's famous voyage round the world in 1740-4, and the publication of the narrative of that voyage in 1748. The need for a British station and port of call in these seas was suggested; and, while Lord Anson was at the Admiralty, it was proposed to send out an expedition to make a report upon the islands, with a view to forming a station; but, according to the Annual Register, the scheme was given up owing to protests

from Spain, though there appears to be no official record of such protests.

SPANISH RIGHTS RECOGNISED BY FRANCE

Nothing more was done until the end of the Seven Years' War and the Peace of 1763. In the summer of that year, Bougainville, the French explorer, organized at St. Malo an expedition for forming a settlement in the Falklands. The ships sailed in September, carrying a few Acadian families as settlers, and live-stock of all kinds. The Falklands were sighted on January 31, 1764, and Bougainville landed on February 3. He chose a site for his settlement at the head of Berkeley Sound, and called it Port Louis. He went back to France in the same year to report to the French Government, and arrived again in the Falklands, with some more settlers, in January 1765. But his colony was short-lived. The French and Spanish Governments became involved in a dispute over the French settlement. An angry correspondence took place between the Spanish Prime Minister and the Duc de Choiseul, and the two countries were actually beginning to prepare for war, when Louis XV intervened, and proposed to the King of Spain that the French should withdraw from Port Louis on the payment of compensation by Spain. Bougainville was sent to Madrid; and an agreement on these lines was arrived at (1766), France receiving a sum of money equivalent to £24,000. Port Louis was renamed by the Spaniards Port Soledad.

FIRST BRITISH OCCUPATION

Meanwhile, in 1764, the British Government, inspired probably by the action of the French, had at length carried out their intention of sending an expedition to report upon the Falkland Islands, with a view to establishing a station there, the royal instructions to that effect being given in June of that year. The commodore in charge was the Hon. John Byron, who, as

a midshipman, had been wrecked on the coast of Chile in a ship belonging to the squadron in which Anson made his famous voyage. On January 15, 1765, Byron sailed into a harbour on the north coast of West Falkland, which he called Port Egmont, or Egmont Harbour, after the Earl of Egmont, then at the head of the Admiralty. "Of this harbour," he wrote, "and all the adjoining islands I took possession for His Majesty King George the Third of Great Britain under the name of Falkland's Island." On his report, Captain MacBride was immediately sent out in H.M.S. *Jason* (whence the Jason Islands, adjoining this part of the Falklands), to form a settlement, which was begun at Port Egmont early in 1766, the site of the station being on Saunders Island, near the mouth of the inlet.

CONTROVERSY BETWEEN GREAT BRITAIN AND SPAIN

The existence of the station was not at first known to Spain, and the British were not molested for two or three years. But in 1769 the British and Spanish commanders warned each other off as trespassers; and in the next year, on June 10, 1770, a fleet of five Spanish frigates, with a strong armed force on board, obliged the small English garrison to capitulate and return to England. It should be noticed that during these proceedings, in 1769 and 1770, the protests of the British commander laid great stress on the first discovery of the islands by Great Britain. The ejected settlers reached England in September 1770; and the action of Spain roused strong public feeling there. Lord Weymouth, the Secretary of State, demanded the immediate restoration of the colonists to Port Egmont and reparation for the insult offered to the British Crown. At the same time he began with vigour to prepare for war. The King of Spain appealed to the King of France for assistance in virtue of the "Family Compact." The matter was referred to the Duc de Choiseul, who endeavoured to arrange a settlement

between the two countries on the same lines as that arrived at between France and Spain. Lord Weymouth refused to negotiate on this basis; whereupon the Duc de Choiseul promised the Spanish Government the support of France in the event of war with Great Britain.

At this point, however, it became clear that Lord Weymouth was unable to carry his Government with him in his warlike schemes, and he was obliged to resign office. At the same time, Louis XV again intervened, dismissing the Duc de Choiseul, and declaring to the King of Spain his intention of preserving peace with other Powers if possible. Negotiations were reopened between Great Britain and France, and eventually, by a Convention of January 22, 1771, the Spanish Government agreed to make complete restitution, but with a reservation that the engagement "to restore to His Britannic Majesty the possession of the fort and port called Egmont cannot nor ought any wise to affect the question of the prior right of the sovereignty of the Malvinas Islands, otherwise called Falkland Islands."

PORT EGMONT REOCCUPIED AND ABANDONED

Lord Rochford, the new Secretary of State, in his reply, took no notice of this reservation, which therefore stood on record without being controverted. On this ground mainly Lord North's Government was strongly attacked in Parliament and outside. Lord Chatham, among others, took a hand in Parliament, declaring that Port Egmont alone had been restored, and not the Falkland Islands; while outside Parliament "Junius" wrote against the Ministry, who were defended by Dr. Johnson in "Thoughts on the late Transactions respecting Falkland Islands."

A British ship of war, the *Juno*, was forthwith sent out, with two smaller vessels, to have the Agreement duly carried into effect; and on September 16, 1771, the commander of the *Juno* was formally placed in possession of the station by the Spanish officer on the

spot. A sloop, with some seamen and marines, was left to hold it; but the number of the garrison was reduced in the next year; and in 1774 the garrison was withdrawn altogether, while leaving behind "the proper marks or signals of possession and of its belonging to the Crown of Great Britain." Port Egmont was abandoned on May 20, 1774, but the British flag was left flying; and the commanding officer affixed to the door of the blockhouse an inscription engraved in lead, in the following terms:—

Be it known to all nations

That Falkland Islands, with this fort, the storehouses, wharfs, harbours, bays, and creeks thereunto belonging, are the sole right and property of His Most Sacred Majesty, George the Third. . . . In witness whereof this plate is set up, and His Britannic Majesty's colours left flying as a mark of possession.

It should be added that, in 1775, Captain Cook took possession of South Georgia, and gave it its name.

THE ISLANDS FROM 1774 TO 1831

It is not clear how long the Spaniards remained at Port Soledad; they are said to have used the Falklands as a place for deportation of convicts; but, at any rate, there is no question that by 1810 the islands were left without any European garrison or permanent inhabitants. In 1820 the Republic of Buenos Aires established a settlement at Port Louis (or Soledad). By this time the development of the seal fishery had led to the islands being frequented by ships of various nations, especially American. In 1829, Louis Vernet, the Governor of the settlement at Port Louis, in virtue of the exclusive right to the seal fishery which he claimed, warned off American vessels; and in 1831 he followed this up by seizing some of the ships and detaining their officers and crews. Thereupon the commander of an American ship of war, the *Lexington*, sailed from Buenos Aires to Port Louis, and on December 31, 1831, broke up the settlement.

GREAT BRITAIN TAKES POSSESSION

At the end of November 1832, H.M. sloop *Clio* was sent from the British squadron on the South American Station. She reached Port Egmont on December 20, 1832, and during his stay the commander set up an inscription on a board :—

Visited by H.B.M.S. *Clio* for the purpose of exercising the right of sovereignty over these islands, December 23, 1832.¹

After ten days' stay the *Clio* sailed on to Port Louis; and on January 3, 1833, the British flag was hoisted and possession was taken. At the same date another British ship, the *Tyne*, visited Port Egmont, and a similar ceremony took place. Since that time the Falkland Islands have remained continuously and without interruption a British possession.

In March 1833, almost immediately after the visit of the *Clio* and the hoisting of the British flag, the *Beagle*, under the command of Captain Robert FitzRoy, and having on board Charles Darwin (whose name is perpetuated in Port Darwin), arrived at Port Louis, paying a second visit to the islands in March of the following year, 1834. FitzRoy's instructions included an order to make a sketch or running survey of the Falklands and to note the best harbours. The instructions were duly carried out; and the map, which is given in the Parliamentary Papers of 1841 and 1843,² relating to the Falklands, was based upon the surveys which were made in 1834. FitzRoy's narrative of his memorable voyage³ gives a full description of the islands and an excellent account of their history and the political controversies up to date, as well as a notice of the Vernet settlement, which appears to have

¹ See the account given in *The Falkland Islands*, by G. T. Whittington, London, 1840.

² *Papers Relating to the Falkland Islands*, House of Commons, August 27, 1841; *Papers, Falkland Islands*, House of Commons, April 3, 1843.

³ *Voyages of the "Adventure" and "Beagle,"* 1839, vol. II, chaps. xi, xii, and later in the volume.

been a praiseworthy and substantial effort to form a colony.

FORMATION OF THE BRITISH COLONY

For a few months after the British occupation Port Louis was left in charge of Mr. Matthew Brisbane, Vernet's partner or agent, who had accompanied Weddell on his Antarctic expedition. He was murdered by a gang of Gauchos and Indians on August 26, 1833, as is told in FitzRoy's narrative. In January 1834 a naval officer was placed in authority, and the islands remained under the Admiralty until 1842. A body of opinion grew up in favour of taking steps to colonize the islands; concessions were sought for; a Falkland Islands Association was formed; and the need for a fully constituted Government on the spot to administer law and keep order became more and more apparent. The question was referred to the Colonial Land and Emigration Commissioners, whose report, dated August 22, 1840,¹ enumerated four grounds upon which the establishment of a regular colony had been urged—the usefulness of having a port of refuge for merchant ships plying round Cape Horn, the expediency of a port roughly half-way between the two oceans for the South American Squadron, the advantages of the islands for a penal station, and their general fitness as a settlement for agricultural and commercial purposes. The first three reasons were fully endorsed; as to the fourth, the Commissioners were in doubt, their final conclusion being that “the Falkland Islands would be able to support a small body of colonists of frugal and industrious habits.” Settlers from the Orkneys and the Hebrides were suggested. The Colonial Office was opposed to the idea of a penal station, but favoured the establishment of a colony, and recommended a Parliamentary grant to cover the expenses of government. The Admiralty concurred; so did the Treasury; and in

¹ *Papers Relating to the Falkland Islands*, House of Commons, August 27, 1841.

the first instance a Lieutenant-Governor was appointed under the Colonial Office in August 1841. This was Lieutenant Moody, R.E., who reached Port Louis in January 1842.

After some hopeful reports from Moody, the Government took further action. On April 11, 1843, an Act of Parliament was passed (6 and 7 Vic., cap. 13), "to enable Her Majesty to provide for the government of her settlements on the coast of Africa and in the Falkland Islands." Under this Act, Letters Patent and Royal Instructions were issued in the following June; Moody was appointed Governor; provision was made for a Legislature; and the Falkland Islands became a Crown colony of the ordinary type, with Governor, Executive Council, and Legislative Council, as they have since remained.

FitzRoy had noted the excellence of Port William; and the question arose as to whether Port Louis or Port William should be made the chief centre. In 1842 Captain James Ross, on his Antarctic expedition, visited the islands in his ship, the *Erebus*, having, like FitzRoy, on board his vessel a scientist, afterwards of high distinction, the late Sir Joseph Hooker. Hooker was consulted as to the respective merits of the two ports, and unhesitatingly preferred Port William. Moody held that the country surrounding Port Louis, which was renamed Anson, was far more favourable for settlement than the vicinity of Port William, and recommended that the seat of government should be kept for the time at Port Louis, though he recognised that Port William must become the chief port of the islands. On hearing these views, Lord Stanley, Secretary of State for the Colonies, decided in favour of Port William, and on March 23, 1843, sent instructions to move the headquarters to that place as soon as possible. This was done, and in 1844 the capital of the colony was fixed at Stanley Harbour in Port William inlet, the name Stanley superseding the older name.

ECONOMIC PROGRESS OF THE COLONY

The Blue Book report for 1846 gave a population of only about 270, including 106 immigrants introduced by Mr. Lafone, a rich merchant resident in Montevideo. By a contract with the Crown, dated March 16, 1846, Lafone was granted, for the sum of £60,000, payable in instalments, the concession of a very large tract in East Falkland, estimated at first at about one-third of the whole island, and the possession for six years of all the wild cattle and stock in the islands. This agreement was modified by a new contract of January 9, 1850;¹ and shortly afterwards Lafone transferred his rights to a company, the Falkland Islands Company, whose charter dates from December 23, 1851, and which has since played an outstanding part in the history and the life of the colony.

From about 1867 onwards sheep-farming became more and more the predominating industry of the Falklands. Sheep took the place of wild cattle, Scotsmen of South American Gauchos; and at the end of the nineteenth century wool was the one export of the colony.

Meanwhile South Georgia was visited by sealers and also by scientific expeditions; and, as the result of the Swedish Antarctic expedition of 1902, Captain Larsen, a Norwegian, succeeded in 1904 in forming a company in Buenos Aires and establishing a whaling station in South Georgia. This was followed by other companies, mostly Norwegian, for exploiting the whale fisheries in these seas, with the result that the whale oil and produce, which comes from or through the Falklands, represents something like half the output of the world, and the trade returns of the colony show an enormous increase on former years. For some years

¹ The two Agreements will be found in Appendix No. 25, pp. 124-8, of the General Report of the Colonial Land and Emigration Commissioners for 1846, and Appendix No. 54, pp. 202-8, of their Report for 1849.

prior to 1906 the chief British company, Messrs. Salvesen and Co., of Leith, operated in West Falkland as well as in the Dependencies, but the Dependencies supply the main bulk of the trade.

III. SOCIAL AND POLITICAL CONDITIONS

GOVERNMENT, EDUCATION, &c.

THE Falklands have long been self-supporting. The Legislative Council consists of three official members in addition to the Governor, and two unofficial members nominated by the Crown. The Governor is also Chief Justice, and there is a resident magistrate in South Georgia. The only settlement in the colony of any substance other than Stanley is Darwin, also in East Falkland. Here the Falkland Islands Company maintains a school; at Stanley there are two schools—one a Government, the other a Roman Catholic, school. Outside these two settlements, in the “camp” (*Sp. campo*), as the countryside is termed, education is provided by travelling teachers.

IV. ECONOMIC CONDITIONS

(A) MEANS OF COMMUNICATION

(1) INTERNAL

(a) *Roads*

THERE are no roads, except at Stanley, and even these are very poor. All inland travelling is done on horseback, and is rendered difficult by the soft peaty soil.

(b) *Rivers*

The rivers are shallow and winding, and of little use for navigation. Brenton Loch affords water communication for 8 miles from the centre of East Falkland to the sea. Murrel River can be ascended by boats for about 8 miles. The San Carlos River is navigable by small vessels for 3 or 4 miles, and by boats for 6 miles.

(c) *Posts and Telephones*

Mails between Stanley and other parts of the colony are conveyed on horseback and by local steamers.

A telephone system is established between Stanley and the settlement at Darwin Harbour, and there is another line between Stanley and Cape Pembroke lighthouse.

(2) EXTERNAL

(a) *Ports and Anchorages*

In the Falkland Islands, Stanley is the principal port, but excellent harbours, easy of access, and with good holding ground, are formed by the numerous

indentations of the coasts. If due care be exercised they offer ample protection from the frequent gales.

In East Falkland Island, *Port William*, which includes *Stanley Harbour*, affords good anchorage, sheltered from all the prevailing winds. The entrance to Stanley Harbour is extremely difficult and dangerous; a large vessel never attempts to pass in or out of the harbour at night. The harbour itself is excellent, being a large natural dock, 3 miles long by about a third of a mile broad, with depths of from 20 to 30 ft. over stiff mud. For large vessels, however, the anchorage is somewhat confined. The amount of coal kept in stock is about 450 tons, but, though there are three lighters holding 80 tons, coaling is slow, being greatly impeded by strong winds in summer and snow squalls in winter. Small vessels can go alongside the hulks at the jetty, but the depths are only from 8 to 10 ft. There are five small jetties abreast of the town. Small repairs to machinery can be undertaken by the Falkland Islands Company, which possesses a crane on the wharf lifting half a ton and another in the smithy lifting one ton. There is a steam tug fitted with salvage pumps to render assistance to disabled vessels. On the far side of the port from the town there is a dock and coaling station, constructed for the Navy. Stanley is a port of registry, and had on December 31, 1916, six vessels of a total tonnage of 807 tons. It forms a convenient coaling station for vessels going through the Strait of Magellan, and ships which have been damaged in heavy weather off Cape Horn call there for repairs. The charges, however, are high, owing to the cost of labour, and many owners instruct their ships to avoid the Falklands and make for Montevideo.

Port Salvador, on the north of East Falkland Island, is a magnificent and spacious harbour, but difficult to enter, owing to the narrow channel and the rapidity of the tidal streams. After clearing the entrance channel, vessels can find good and secure anchorage.

Berkeley Sound has an entrance $4\frac{1}{2}$ miles in width; it is 16 miles long, and terminates in the three excellent anchorages of Johnson Harbour, Stag Road, and Port Louis.

At *Port Harriet* there is excellent anchorage, but the shores are generally swampy, so that the port will probably never be of importance except as a temporary shelter.

At *Port FitzRoy* there is a bar across the entrance, but for 3 miles above this point the harbour is fully a mile wide, is clear of danger to within two cables of the shore, and affords excellent anchorage.

Port Pleasant, immediately to the south of Port FitzRoy, has two entrances, each with a bar on which the deepest water is $2\frac{1}{2}$ fathoms.

Choiseul Sound is studded with islands forming sheltered anchorages for small vessels, while large vessels can bring up almost anywhere in from 12 to 18 fathoms. There are good anchorages at Mare, Victoria, Arrow, and Darwin Harbours. Mare Harbour is one of the finest on the coast, and easy of approach for the largest vessels. Inside the entrance it opens to a clear piece of water about half a mile long and one mile wide, with excellent anchorage in 6–10 fathoms. On the east side of Mare Harbour there is an opening leading to East Cove, another very fine harbour.

Adventure Sound, which is 20 miles long, contains several good harbours, the best being in the southern part at Adventure Harbour and Moffit Bay; the former will accommodate vessels of any class.

Bull Road, in the Bay of Harbours, is the most convenient anchorage in the southern part of East Falkland; there is completely sheltered anchorage on the south side close to the shore in 7–10 fathoms. There are also several other anchorages in this bay.

Port San Carlos is one of the finest harbours in the Falklands, being capacious, secure, and, as far as is

known, clear of all dangers; there is a good cove for beaching vessels.

With the exception of Stanley Harbour, these harbours are seldom used except by coasting schooners.

The harbours in West Falkland are little used.

Pebble Sound, in the north, is about 15 miles long and 9 miles wide, and has good anchorage in every part, but the entrances are dangerous. Good anchorage is also found at *Port Egmont* in Keppel Sound, where there is a rough pier in Sealers' Cove. *Whaler Bay*, in King George Bay, is a safe and good anchorage with coves for small craft.

Queen Charlotte Bay possesses several good harbours, among others a large land-locked harbour at Port Philomel, where there is excellent anchorage in every part in from 7 to 10 fathoms, and in all the creeks there is good anchorage in from 2 to 4 fathoms. There are also small well-sheltered anchorages at Anthony Creek and Carew Harbour.

South Harbour, in the southern part of Ship Harbour, on the east side of New Island, was the site of Messrs. Salvesen and Co.'s whaling station, and is the most frequented harbour in West Falkland. It is a port of entry, and a Customs official is stationed there.

At *Port Stephens* there is a good anchorage off the settlement, in 13 fathoms. Communications are maintained with Stanley by means of a steamer which conveys mails and supplies.

There is good anchorage also at Port Albemarle, Port Edgar, Port Howard, and White Rock Bay. *Port Edgar* is a very secure harbour, and a small pier affords landing to boats.

In South Georgia by far the best anchorage is *King Edward Cove*, situated half way up the arm of Cumberland Bay. This cove affords perfectly safe anchorage in any weather for vessels of any size in 10 fathoms over a clay bottom, and Cumberland Bay rarely freezes over sufficiently to prevent vessels getting

in and out. There is a whaling station at *Grytviken* with a boiling-down factory lighted by electricity. There is a blacksmith's shop, and a slip fitted with powerful winches for heaving whales up on the shore. A wooden pier opposite the factory allows a vessel of 16 ft. draught to come alongside.

Antarctic Bay and Fortuna Bay both possess good anchorages, used by steam whalers; Moltke Harbour, in Royal Sound, is not so good.

In the Sandwich group there is said to be a harbour in Southern Thule, but it is nearly always icebound, and is not used by the whalers.

In the South Orkneys few of the bays afford more than temporary shelter, and they are all more or less obstructed by ice. Scotia Bay, in the south of Laurie Island, is fairly safe, but is liable to be frozen over until the summer. There are several small harbours suitable for whalers on the south of Coronation Island.

In the South Shetlands the best known harbour is at Port Foster, on Deception Island. It is 5 to 6 miles across, and has good anchorages in Pendulum Cove and Whaler's Anchorage.

Hospital Cove in Greenwich Island, Admiralty Bay and St. George Bay in King George Island, and Blythe Bay in Desolation Island are also good. New Plymouth or Rugged Harbour in Desolation is found convenient by sailing vessels, but cannot be recommended.

In Graham Land there are several known anchorages, but their use depends on the movement of the ice. A good harbour, Port Lockroy, is to be found at Wiencke Island.

The only harbours that are blocked with ice are those in the Antarctic Dependencies. The South Georgia bays may be frozen at their heads but not sufficiently to inconvenience a strong vessel, and they are not invaded by pack ice. The South Orkney harbours are completely frozen for a period that varies from year

to year; the average period for Scotia Bay is 177 days in the year. The South Shetland harbours are open for at least five months. In Graham Land the bays are closed for 10 months or more. The harbours of the Dependencies are only used by whalers and explorers.

The following table shows the number of vessels which entered the ports of the Falkland Islands from 1909 to 1913:—

	<i>British.</i>				<i>Foreign.</i>			
	Steamers.		Sailing Vessels.		Steamers.		Sailing Vessels.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
1909	44	144,024	4	7,202	12	5,652	9	3,625
1910	37	135,505	5	10,089	21	13,616	9	9,010
1911	38	121,711	9	6,036	26	20,218	5	6,904
1912	39	142,144	4	6,251	49	44,835	8	4,573
1913	59	165,681	—	—	82	76,135	18	19,021

(b) *Shipping Lines*

Before the late war the Falkland Islands were in mail communication with England every month. The Pacific Steam Navigation Company's steamers called at Stanley on voyages to and from Callao. The voyage between Stanley and London takes 28 days. The Falkland Islands Company (see below, p. 33) are the sole shipping agents in the colony, and with their tugs, lighters, and jetties control most of the commerce of the place. Their vessels carry on the inter-insular mail, passenger, and traffic services.

Before the late war there was a regular mail service between South Georgia and Buenos Aires, a distance of 1,500 miles, for which a subsidy was offered by the Colonial Government but refused.

(c) *Wireless Communication*

A Marconi wireless station was completed at Stanley in September 1912. It can communicate with Cerrito (Uruguay) and the Strait of Magellan.

(B) INDUSTRY

(1) LABOUR

There is a great shortage of labour in Stanley, so that it is difficult to carry out necessary works. A large number of the younger men drift away to Patagonia and the southern parts of South America.

The prosperity of the colony is visible in the conditions of the individual colonists. In 1915 a shepherd in the "camp" districts of the colony received from £72 to £80 a year, a farm hand from £60 to £70, and a farm boy from £36 to £48. Free housing and mutton were given in addition to these wages. In Stanley, skilled labourers (joiners, carpenters, blacksmiths, &c.) were paid 1s. 1½d. per hour with 1s. 8d. for overtime, and in many cases free housing; the wage for unskilled labour was 9d. per hour and 1s. 3d. for overtime. There is no necessity for any institution in the nature of a workhouse.

(2) AGRICULTURE

(a) *Products of Commercial Value*

Vegetable Products.—Nearly all the soil of the Falkland Islands is peat, and supports only a poor growth of yellowish grass, which has little sustenance for cattle, but on which sheep do very well. The tussock grass, a valuable natural product which affords fattening food for cattle, has now almost disappeared from East and West Falkland, but still abounds in the smaller islands. A minor occupation carried on in

¹ This term, derived from the Spanish, is used in speaking of the countryside outside the settlement.

Stanley by the owners of small cutter-boats is the bringing in of tussock grass from the outlying islands. Peat, which is abundant, is the principal fuel used in the islands.

The cultivation of fruit and vegetables is made difficult by the damp, cold nature of the soil and the prevalence of high winds; but potatoes, carrots, turnips, cabbages, Scotch kail, and rhubarb do well. All the gardening soil is artificial. There is not enough sunshine to ripen grain, except on one of the small outlying islands to the west.

Hay was cut and sold in the Falklands for the first time in 1911. This was a very desirable innovation, as the price to the buyer was decreased, and there was less risk of introducing disease from abroad. In 1913 it was stated that probably sufficient hay for home consumption was then being produced in the colony. Lucerne was also tried that year, but did not give good results; good crops of oaten hay, however, were raised in East and West Falkland. Since then there has been a steady increase in the area of land under cultivation. In 1916 an experiment was made of turning oaten hay into ensilage, which was completely successful.

Animal Products.—The principal animal products of commercial value are wool, tallow, hides, whale oil, and guano.¹ The steady growth of the prosperity of the colony dates from the period when the settlers discovered that the wide expanses of marsh and moorland over which they had been roaming in search of wild cattle might be profitably utilized as sheep-rearing areas. The year 1867 has been given as the date when the first efforts were made to establish the industry on a permanent footing. It was an uphill task, owing to the uncongenial climate and the transport difficulties, but the farmers persevered, and the industry increased each year in importance. Whereas the number of sheep in the colony in 1867 was 35,000, 10 years later it was 283,000. In the following decade the number

¹ The term "guano" is locally used to denote an artificial fertiliser made from the flesh and offal of whales.

rose to 563,000, and reached in 1896 the record total of 801,000. The average for the 10 years ending 1908 was 720,000. In 1917 the total number of sheep was 696,975, the decrease being due to the number used in the canning industry, but the 1917 figures show an increase on those for 1916, which were 689,904. Sheep-farming is remunerative. A farm carrying 10,000 sheep will make between £2,000 and £3,000 gross a year. The flocks, generally speaking, vary from 2,000 to 30,000, but in one instance there were 200,000 sheep on one station. The export duty on wool brought in an annual revenue of over £1,000 before the war. In 1913 and 1914 a large trade was done in the sale and shipment of live sheep to the Argentine for slaughter.

Besides the wild cattle, which are still found in small numbers, there are fairly large herds on every station. A shepherd may have as many cows as he cares to tame, so that in summer there is no shortage of milk or butter. The total number of cattle in 1917 was 6,844, and they were stated to be in a flourishing condition. The number of horses in the colony was 2,653.

In South Georgia there are inconsiderable lowland areas round the coast, divided by high ridges into small valleys with tussock grass and luxuriant vegetation. Reindeer and Falkland upland geese have been imported, and are stated to be doing very well; they are likely in a few years' time to be a valuable asset to the colony, as at present all the meat has to be imported from the Falklands or Buenos Aires.

(b) *Land Tenure*

Practically all the land in the Falkland Islands is bought up, and in several cases a man and his family are the sole human occupants of their own island. The farmers have the right to purchase their leaseholds from the Crown at the rate of 3s. per acre (10 per cent. in cash and the balance in thirty annual payments of 3 per cent.), and most of them have taken advantage of these terms.

(3) FISHERIES

One of the most important industries of the Falkland Islands and Dependencies is the whale fishery, which has made great progress in recent years. In 1904 the *Compañía Argentina de Pesca*, of Buenos Aires, was founded, with an initial capital of £40,000, to exploit the whales and seals in these waters. This company made its working headquarters at Cumberland Bay, in South Georgia, then entirely uninhabited, and the Falkland Islands Government granted the first whaling lease to the company, to date from January 1, 1906. Thenceforward the growth of the industry in South Georgia was rapid, and it is now one of the most important whaling centres of the world.

The success of the early operations led to an almost immediate establishment of similar whaling companies in the other Dependencies of the Falkland Islands and in the colony itself. In April 1914 there were seven whaling companies in South Georgia, with an invested capital of about £625,000, employing some 1,700 men in summer and about 500 in winter. Two of these companies were English. In the South Shetlands and Graham Land there were ten companies, of which one was English; in the Falkland Islands one English company, and in the South Orkneys three Norwegian companies. In South Georgia there are five land stations, where large and up-to-date factories have been built; the lease is for a period of 21 years, at an annual rental of £250, this sum giving the company the right to use two catchers in connection with the factory. For a further sum of £100 a licence may be issued granting the use of a third catcher. A licence for the South Shetlands, including Graham Land, or for the South Orkneys costs £200 per annum, and gives the company the right to use two floating factories and two catchers, while for another £100 a third catcher may be employed, if approved by the Governor in Council. The *Hektor* Company holds the only lease in the South Shetlands, and under this lease it may use

its shore station, at Port Foster, Deception Island, one floating factory, and two catchers. During the war whaling entirely ceased in the colony and in the South Orkneys, and the number of floating factories and catchers visiting the South Shetlands greatly decreased.

A floating whale factory consists of a steamer or sailing-ship up to 7,000 tons burden, fitted with all the necessary reducing plant and with accommodation for storing the oil. These vessels must be moored in a harbour, as smooth water is required to enable the whales to be flensed alongside the vessel. A few steamers have been fitted with drying kilns for the manufacture of guano, but so far the results have not been satisfactory, and it is open to doubt whether the expenses of manufacturing and marketing the guano are covered by the prices realised.

In South Georgia whaling continues all the year round, but about five-sixths of the whales killed are caught between November and May. The South Shetlands season lasts some 4 to 5 months, from November to April. The South Orkneys season is shorter on account of the more severe weather conditions.

With the growth of the whaling industry, ordinances have been passed in the colony and regulations made with a view to controlling the operations of the whaling companies. A stipendiary magistrate, who is also Deputy Controller of Customs, is permanently established with two assistants at King Edward Cove in South Georgia. Each year a Government official is sent to Deception Island, South Shetlands, for the whaling season, and another is sent to the South Orkneys when there are ships going there.

The whaling licence dues before the war brought in an annual revenue of about £3,000, and a like amount was realised by the export duty on whale oil, though the rate was only 3*d.* per barrel.

The following are the only species of whale which are hunted:—

The southern Right whale (*Balaena australis*). A full-grown specimen in good condition will yield from 60 to 70 barrels of oil and 4 to 5 cwt. of baleen (whalebone). The price of baleen is now so low that no special efforts are made to kill this species, which used to be much the most valuable.

The Humpback whale (*Megaptera boops*), which is rapidly decreasing in numbers.

The Blue whale (*Balaenoptera sibbaldii*), which is more difficult to kill than the Humpback, and therefore was not much hunted while Humpbacks were plentiful. It is the largest living animal in the world.

The Finner whale (*Balaenoptera musculus* or *physalus*).

The Fish whale or Seihval (*Balaenoptera borealis*), which is the smallest of the whales killed in the south, and is only pursued when there is a scarcity of the larger kinds.

The Cachalot or Sperm whale, which is seldom met with in these waters, as its natural habitat is in warmer zones.

The chief products of the whale fisheries are oil, whalebone, whale meat, and whale guano. The value of the catch of the different fisheries during the 1913-14 season was as follows:—

	£
Falkland Islands	15,196
South Shetlands and Graham Land	720,474
South Orkneys	76,150
South Georgia	489,727
Total ...	£1,301,547

Details of the whaling operations during this season are as follows:—

	Number caught.	Whale oil.		Bone.		Whale guano.		Bone meal.	
		Barrels.	Value.	Tons.	Val. ue.	Bags.	Value.	Bags.	Val. ue.
Falkland Islands	300	4,505	£ 13,515	80	£ —	3,363	£ 1,681	—	£ —
South Shetlands and Gra-	approx.	222,940	714,021	111	275	10,148	6,178	—	—
ham Land	5,259								
South Orkneys	621	21,750	76,120	20	30	—	—	—	—
South Georgia	3,349	166,578	445,063	213	4,066	81,324	40,028	1,327	570
Total	9,529	415,773	1,248,719	424	4,371	94,835	47,887	1,327	570

Since 1914 no whaling has been carried on in the Falklands or the South Orkneys; in 1917-18 the value of the other fisheries was as follows:—

South Shetlands and Graham	£
Land	466,000
South Georgia	1,100,000

Early in 1918 a committee was appointed to facilitate prompt action at the conclusion of the war with regard to the preservation of the whaling industry in the Dependencies of the Falkland Islands.¹ The Colonial Office had already been in communication with scientific experts regarding the protection of whales.

The seal fisheries have considerably decayed, owing to the decreasing number of seals found. In these waters are found the sea-elephant, sea-leopard, and Weddell seal. The seals are protected by law, and penalties are imposed for killing or capturing them without a licence. A licence costs £50, and no licence may be granted in respect of seal reserves, which are defined as areas of land or water set apart for the breeding of seals.

There is reason to believe, from investigations made by the *Scotia* in 1903, that profitable white fishery undertakings might be established in the waters of the archipelago. The British have not attempted this, although Uruguay and the Argentine are now making

¹ For the Report of this Committee, see "Authorities," p. 42.

efforts to investigate the fishery resources of the South Atlantic. The only varieties of fish caught round the coasts of the Falkland Islands are the mullet, which attains a great size, and the smelt. Probably more species would be found if the fishermen went farther afield; as it is they only drag the shallow coves or throw a line from the shore. A peculiar trout, weighing up to 1 lb., is found in the islands; it lives equally well in fresh or salt water.

(4) MINERALS

There are no metallic ores, but there are quarries from which good stone for building purposes may be obtained.

(5) MANUFACTURES.

In 1910 two canning factories, capable of dealing respectively with 600 and 300 sheep daily, were established at San Carlos North and at Goose Green, where 120 men are employed. Formerly, the only sheep killed for mutton were for local consumption or for sale to passing vessels. The surplus stock were boiled down for tallow. In 1913 the production of these canning factories was 5,119 cases, valued at £6,470, and 68 cases of meat extract, valued at £1,700. During the 1913 season about 1,000 head of cattle were canned at the Goose Green factory, this being the first year that cattle were used. Since then only the Goose Green factory has been working. During 1917, 42,000 sheep were canned. The directors propose enlarging the canning factory, and hope to introduce plant for the manufacture of fertilizers, and also a skin-drying apparatus.

(C) COMMERCE

(1) DOMESTIC

(a) Principal Branches of Trade

The Falkland Islands Company, which has its headquarters at Stanley and an important station in the

"camp" at Darwin, carries on an extensive business in sheep farming and general import trade. This company was founded in 1851 to take over from Mr. Lafone of Montevideo¹ the district in East Falkland now known as Lafonia, the original object being the capture of wild cattle. This was, however, not found profitable, and the company engaged in sheep farming on an extensive scale, not only on their own freehold at Lafonia but also on 97,128 acres purchased from the Government. In 1913 it was stated that they owned about half East Falkland and had about 20,000 sheep. Besides this they engaged in the importation of goods of all kinds and the repair of ships. They have a large business connection with other farmers, and are the bankers of the island and the sole shipping agents in the colony. Their capital is £110,000, entirely paid up, and they have paid very large dividends.

(b) *Towns*

Stanley, in East Falkland, is the only town. It consists of two or three streets with cross roads extending along the southern shore of Stanley Harbour. Most of the buildings are of wood.

The whole country is divided up into stations, as they are called, each with its settlement, where the shearing is done, the wool shipped, and stores kept, and where the manager lives. The most important of these is Darwin, the Falkland Islands Company settlement on Choiseul Sound, but it has less than 20 houses. At New Island settlement, in the extreme west, a large whaling station has recently been established. The rest of the settlements seldom consist of more than the houses of one farm. Shepherds' houses are scattered all over the "camp."

South Georgia has now several settlements, the chief being the whaling station of Grytviken, in King Edward Cove, Cumberland Bay. It consists of a

¹ See above, p. 17.

number of wooden houses and a church, and is lit by electricity. There are other settlements at Leith Harbour, in Stromness Bay, and at Fortuna Bay.

The only settlement in the South Shetlands is at Deception Island, and this is deserted in winter.

(2) FOREIGN

The following table shows the value of the imports and exports from 1907 to 1917:—

				Imports.	Exports.
				£	£
1907	..	..	..	73,619	246,485
1908	..	..	..	73,062	189,972
1909	..	..	..	89,862	261,514
1910	..	..	..	94,294	308,930
1911	..	..	..	93,913	471,156
1912	..	..	..	93,264	623,875
1913	..	..	..	239,222	1,460,219
1914	..	..	..	233,379	1,505,464
1915	..	..	..	368,272	1,576,126
1916	..	..	..	591,017	2,053,719
1917	..	..	..	1,256,906	1,870,903

The very high trade return, amounting in 1917 to £3,000,000, though the total population of the Falkland Islands and Dependencies is under 4,000, is worthy of remark. The trade with the United Kingdom alone, exclusive of the goods reconsigned from Brazil or the Argentine, was in 1915 valued at £1,707,191. In 1905 the total trade returns amounted to only £225,605.

(a) Exports

The exports consist chiefly of wool, tallow, hides, oil, and guano. The following table shows the value of the articles exported in 1910 and 1913:—

	1910.	1913.
	£	£
Extract of meat	—	1,700
Guano	—	34,343
Hides	963	1,236
Live sheep	—	5,229
Seal oil	—	9,840
Sealskins	170	598
Sheepskins	4,138	17,905
Tallow	8,439	4,516
Tinned meat	—	6,470
Whalebone	2,280	11,693
Whale oil	120,995	1,206,396
Wool	161,666	158,443
Miscellaneous	—	1,850

The bulk of the exports before the late war went to the United Kingdom, and in 1915 a proclamation directed that goods should be exported thither exclusively. It will be noticed, however, that in the following table a sum of £93,416 is assigned to countries other than the United Kingdom. The explanation is that certain goods ultimately destined for the United Kingdom were exported *via* Brazil; and an Argentine whaling company received special permission to export their whale oil to Buenos Aires on condition that a certain proportion was re-exported to the United Kingdom and that the remainder should be disposed of within the Argentine.

The countries of destination of exports in 1910, 1913, and 1917 were the following:—

	1910.	1913.	1917.
	£	£	£
United Kingdom ..	232,192	730,994	1,777,487
Argentina	—	80,552	—
Chile	394	37,700	—
Norway	—	414,490	—
Other Countries ..	76,344	196,483	93,416

(b) Imports

The principal imports are textiles, groceries, alcohol, hardware, coal, timber, and ships' stores. The following table shows the value of the imports in 1910 and 1913:—

	1910.	1913.
	£	£
Aerated water	380	501
Building material	3,314	5,623
Coal	9,576	58,125
Corn, hay, &c.	1,635	2,275
Drugs, &c.	1,478	219
Fruit and vegetables	878	2,122
Furniture	2,521	4,490
Glass and earthenware	450	957
Groceries, &c.	21,176	31,316
Haberdashery	7,847	15,135
Hardware	13,147	37,764
Live-stock	2,848	4,523
Malt liquor	1,022	2,388
Metals and minerals	2,381	3,506
Miscellaneous textiles	1,628	2,455
Ships' chandlery	3,801	8,248
Timber	6,073	42,512
Tobacco, cigars, &c.	1,262	2,786
Wearing apparel	10,106	11,107
Wine and spirits	2,271	3,170
Coin and bullion	500	—
Total	94,294	239,222

The following table shows the countries of origin of imports in 1910, 1913, and 1917:—

	1910.	1913.	1917.
	£	£	£
United Kingdom	81,924	152,958	681,603
British Colonies	—	4,351	89,088
Argentina	192	43,482	—
Chile... ..	3,949	1,986	—
Uruguay	7,093	1,781	—
Other Countries	1,136	34,664	486,215

(c) Customs and Tariffs

During the late war the export duties were increased as follows to meet increased expenditure:—

Wool, from 1*d.* to 3*d.* per 20 lb.

Sheep, from $\frac{1}{2}$ *d.* each to 3*d.* each.

Sheepskins, from $\frac{1}{2}$ *d.* each to 1*d.* each.

Hides, from 3*d.* each to 6*d.* each.

Whale oil, from 3*d.* to 3 $\frac{1}{2}$ *d.* per barrel of 40 gallons.

The following new duties were also imposed: meat (canned and preserved), 6*d.* per case of 72 lb.; guano (of all kinds), 1 $\frac{1}{2}$ *d.* per 100 lb. or part thereof.

The chief import duties are on wines and spirits, malt, and tobacco; they amounted in 1913 to £6,199.

(D) FINANCE*(1) Public Finance*

The chief sources of revenue are the customs, rents of Crown lands, licences, and land sales. Since 1885 the colony has been entirely self-supporting, and there is no public debt. The following table shows the revenue and expenditure from 1907 to 1913:—

—	Revenue.		Expenditure.	
	Ordinary.	Total.	Ordinary.	Total.
	£	£	£	£
1907	17,480	21,765	15,248	17,134
1908	17,775	23,847	15,685	20,369
1909	17,609	27,409	16,386	19,913
1910	18,535	26,580	16,034	18,200
1911	24,207	36,146	17,650	23,407
1912	22,155	34,037	20,872	33,508
1913	32,285	42,929	20,646	25,238

The following are the chief heads of revenue and expenditure for the year ending December 31, 1913:—

<i>Revenue.</i>				£
Customs, &c.	...	...	...	13,050
Port and Tonnage dues	...	...	...	856
Internal Revenue	...	...	...	4,541
Fees of Court, &c.	...	...	...	1,586
Interest	...	...	...	6,195
Post Office	...	...	...	2,692
Rents	...	...	...	3,229
Miscellaneous Receipts	...	...	...	136
Total, Ordinary Revenue				32,285
Land Sales	...	...	...	9,822
Stock Ordinaries	...	...	...	822
Total, General Revenue				£42,929

<i>Expenditure.</i>				£
Pensions	...	...	...	707
Governor	...	...	...	1,540
Colonial Secretary	...	...	...	1,077
Treasury Customs	...	...	...	1,633
Credit	...	...	...	23
Port and Marine	...	...	...	572
Legal	...	...	...	395
Police and Prisons	...	...	...	635
Medical	...	...	...	1,512
Education	...	...	...	955
Ecclesiastical	...	...	...	270
Transport	...	...	...	578
Miscellaneous	...	...	...	1,018
Post Office	...	...	...	3,776
Colonial	...	...	...	2,069
Savings Bank	...	...	...	1,680
Currency Note Fund	...	...	...	9
Drawbacks and Refunds	...	...	...	310
Public Works (recurrent)	...	...	...	1,887
Total, Ordinary Expenditure				20,646
Public Works (extraordinary)	...	...	...	3,965
Stock Ordinaries	...	...	...	627
Total, General Expenditure				£25,238

The assets and liabilities of the colony at the close of the years 1913 and 1917 respectively were as follows :—

—				1913.	1917.
				£	£
Assets	..	...	...	186,647	294,921
Liabilities	...	...	...	79,449	131,815

(2) *Currency*

British gold, silver, and bronze are current. There is, however, little gold in circulation. A Government paper currency was established under an Order in Council dated March 7, 1899. Notes may be issued of any of the following denominations: 5s., 10s., £1, £5, and any multiple of £5.

The redemption of currency notes in circulation is a charge on the moneys and securities in the hands of Commissioners and on the general revenue of the colony. The Note Guarantee Fund must have a cash reserve covering not less than half of the value of the notes in circulation. The balance may be invested in approved securities. The total value of the currency notes in circulation at the end of 1917 was £12,000.

(3) *Banking*

A Government Savings Bank was established in 1888, in which, on September 30, 1916, the deposits amounted to £103,578, belonging to 612 depositors. In East Falkland banking business is carried on by the Falkland Islands Company.

(E) GENERAL REMARKS

As will be seen from the foregoing account, the Falkland Islands are in a very prosperous condition. The whaling and canning industries are both of compara-

tively recent development, and have added considerably to the prosperity of the islands. The colony has been little affected by the war, as the smallness of the population and the necessity for the retention of those engaged in the wool industry made it impossible for it to assist much in the way of providing men. The large quantities of wool and whale oil sent to the United Kingdom were a more important contribution. The financial position of the colony, the chief exports of which realised record prices, remains favourable.

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IN addition to authorities referred to in the text, the following, among many other books, may be mentioned as giving compendious information:—

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MAPS

A map of the Falkland Islands, on the scale of 1:1,000,000, and a map of the Islands with Dependencies, on a small scale, have been issued by the Intelligence Department of the Naval Staff, in connection with this series.

KERGUELEN

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I. GEOGRAPHY PHYSICAL AND POLITICAL

(1) POSITION AND EXTENT

THE French possession of Kerguelen lies in the southern Indian Ocean between $48^{\circ} 27'$ and 50° south latitude and between $68^{\circ} 25'$ and $70^{\circ} 35'$ east longitude. It includes one large island (area 1,400 square miles) and many small islets and rocks. The total land area is about 1,700 square miles. The group lies about 2,300 miles from Cape Town and the same distance from Fremantle, in Western Australia. The nearest port is East London, in South Africa, 2,000 miles distant. Kerguelen lies to the south of the route followed by vessels plying between the Cape of Good Hope and Australian ports. The Crozet Islands, also a French possession, are about 720 miles west by north from Kerguelen.

The British Admiralty chart of Kerguelen (No. 2,398) was amended from the surveys made by Captain du Baty in the *Curieuse* in 1914, the results of which are not yet published. Captain du Baty reports numerous changes and additions, including new harbour surveys. In May 1915 the hydrographic service of the French Navy announced that certain German names had been replaced by French ones (see *Avis aux Navigateurs*, May 29, 1915).

(2) SURFACE, COASTS, AND RIVERS

Surface

The principal island is about 70 miles in length from north to south, and about 80 miles in breadth from

east to west, but is so much dissected by long narrow fjords running far inland that the distance across from sea to sea is nowhere more than 14 miles. The necks between these fjords are often so narrow that boats can be hauled across at places called *haul-overs*. Kerguelen is mountainous, only about 5 per cent. of the total area being composed of plains at or near sea-level. The main watershed, which lies near the west coast, runs north-west by north and south-east by south. The highest peak is Mount Ross in the south (6,120 ft.). Several others range between 3,000 and 4,000 ft.

The greater part of the island is composed of basaltic rocks, but the only record of volcanic activity since the island was discovered is a report of an unnamed volcano in the south-west, which in 1914 was emitting steam. Hot springs are said to exist.

Permanent snow is found only in the main range, where it forms a small ice-cap, covering perhaps one-sixth of the interior. On the west side of this range several glaciers fall into Thunder Bay, while others end before reaching the sea, and give rise to short turbulent streams. The glaciers on the east side of the range are farther from the coast, the only point at which they reach the sea being in the narrow inlet known as London River. The fragments of ice which break off such glaciers as enter the sea are too small to be called icebergs. The mountains in the east have no glaciers or permanent ice-cap.

The interior is not yet fully explored. Most of the surface is boggy and badly drained, while the rest is bare, rugged, strewn with blocks of basalt, and broken with cliffs and ridges, so that travelling is very arduous. There are many dangerous bog-holes or sink-holes. The soil is formed of decomposed basalt, and would be fertile if it were not for the rigour of the climate.

Coasts

The coasts are generally steep and landing is difficult, except in the sheltered inlets, on account of the heavy swell. The long, deep fjords are a characteristic feature of Kerguelen, especially on the east. They are generally steep-sided, but in some places sandy beaches afford easy access to the interior.

Pack-ice and bergs are rare in the neighbourhood of Kerguelen. Relatively shallow water occurs at some distance from the shores, and there are probably a number of uncharted rocks, particularly off the east coast. The presence of kelp at the surface is often an indication of sunken rocks.

Rivers

Numerous short rivers and small lakes give the island at all seasons a supply of water in excess of any possible requirements. The rivers are of no use for navigation, but their numerous waterfalls, of which one at least is said to be over 2,000 ft. high, afford a considerable source of unused water-power. Most of the waterfalls run throughout the year, and in any case their period of decreased flow owing to frost is short.

(3) CLIMATE

Kerguelen lies within the belt of westerly gales and is reached by no drying winds, while the Antarctic drift which washes its shores keeps down its temperature. The climate is fairly equable, though cold and boisterous. The mean summer temperature is about 45° F. (7° C.), and the mean winter temperature about 36° F. (2° C.). Temperatures of 65° to 68° F. (18° to 20° C.) may occur at midsummer, and of not less than 18° F. (−8° C.) at midwinter. Ice strong enough to bear a man rarely forms on the most sheltered bays, and the coasts are never blocked by ice.

Westerly and north-westerly winds prevail. Gales are common and in winter almost incessant. The west winds are divided on striking the island, so that on the east side they have a northerly and southerly tendency. Calm, clear weather is rare, and eight successive days of it seem to be a record. It is generally followed by strong northerly winds.

All winds bring rain or snow. Precipitation is heaviest on the western and lightest on the eastern side. Snow may fall in any month, but seldom lies long at sea-level. Fogs are common.

(4) SANITARY CONDITIONS

The climate, though unpleasant, is healthy for any one in good physical condition. Scurvy can be avoided by outdoor exercise and the use of fresh food, which is abundant. There are no noxious insects. Information as to health conditions is naturally scanty in an island without permanent inhabitants, and arguments have occasionally been based on particular instances, notably the attack of beri-beri which the German Antarctic Expedition experienced at Kerguelen in 1902. It has been proved that this was due to their rice supplies from the Far East.

(5) POPULATION

There has never been any permanent population. In the early years of the nineteenth century whalers and sealers, chiefly American, used to frequent the island during the southern summer. There are traces of old blubber-boiling stations at various places on the east coast. When this industry died, the island was abandoned, except for occasional scientific expeditions, several of which wintered there. The buildings of the German Antarctic Expedition in Observatory Bay are

no doubt still standing. In 1893 the firm of Bossière, of Havre, obtained a fifty years' lease of Kerguelen from the French Government. In 1908 they started sheep-farming, whaling, and sealing, and built a small settlement with a wooden jetty and repair-shops at Port Jeanne d'Arc. This station is probably inhabited only during the summer. Most of the staff are Norwegians.

II. POLITICAL HISTORY

KERGUELEN was discovered in February 1772 by Joseph de Kerguelen-Trémarec, in command of the French *flûte* (storeship) *La Fortune*. He reached the group of small islands off the west coast which now bear the name of his ship, but could not himself land on the principal island. One of his officers did so, however, near Cape Bourbon, and took possession of it for the King of France. On his return to France, Kerguelen declared that he had discovered a southern continent, and in 1773 he was sent to 'verify and complete his discoveries'. In January 1774 he again took formal possession, in the Baie de l'Oiseau in the north. His explorations were not extensive, but they were sufficient to dispel his belief that he had found a new continent. James Cook visited Kerguelen on his third voyage in 1776 and entered the Baie de l'Oiseau on Christmas Day, whence came its new name of Christmas Harbour. He subsequently examined some of the eastern and southern parts of Kerguelen, and was so unfavourably impressed that he wrote :

The land in question is an island, of no great extent ; which from its sterility, I should, with great propriety, call the Island of Desolation, but that I would not rob Monsieur de Kerguelen of the honour of its bearing his name.

The name ' Isle of Desolation ' appears, indeed, on the chart of this voyage.

In spite of this character, sealers and whalers, British and American, were attracted to it during the next hundred years. Sir James Ross's Antarctic Expedition,

in the *Erebus* and the *Terror*, visited Kerguelen in the winter of 1840, and remained two months. In 1868 a British firm asked permission to open a coaling station, but the proposal was shelved during the Franco-German War and not revived.

In 1874 H.M.S. *Challenger* explored the eastern side. Since then the most important explorations have been made by the *Gazelle* with the German Transit of Venus Expedition in 1874; by H.M.S. *Volage*; and by the German Antarctic Expedition, which had a meteorological observatory in Observatory Bay in 1901 and 1902 on the site of the Transit of Venus Observatory. In recent years considerable amendments of the charts and additional surveys have been made, notably by Captain du Baty in 1908-9 in the *Jean Charcot* and in 1914 in the *Curieuse*, and in 1909-11 by the Norwegian Commander Theodore Ring in the *Jeanne d'Arc*.

French claims to Kerguelen were re-established in 1893 by the *Eure*, which hoisted the French flag in Christmas Harbour and Gazelle Basin, and placed a depot of provisions and clothing for shipwrecked sailors in the latter. In 1909 it was reported that the contents of this store had been partially destroyed by damp. The sole official act on the part of France since the re-establishment of French claims was the grant of the lease to the firm of Bossière (p. 53). No rent seems to have been charged.

Several French writers have urged that Kerguelen might be used as a penal settlement in place of New Caledonia. They point out that there are no natives or free settlers to disturb, that the climate is suitable for hard work, that sheep-farming and harbour works could be carried on, and that escape is practically impossible.

III. GENERAL OBSERVATIONS

INTEREST in Kerguelen has grown in France during the last twenty years, as is shown by articles in geographical journals, the Press, and elsewhere, and by schemes to make use of the possession. In 1901 it was reported that Australia had offered to buy Kerguelen. During recent years Germany paid some attention to the island.

Situated almost midway between Australia and South Africa, Kerguelen, in spite of its remoteness, might become dangerous in unfriendly hands and in time of war. Since it is ice-free, well watered, and capable of sustaining human beings and animals, it cannot be ignored.

IV. ECONOMIC CONDITIONS

(A) MEANS OF COMMUNICATION

PORTS

MANY of the fjords afford excellent sheltered harbours, especially those on the east coast; others, particularly those on the west coast, are dangerous except in northerly winds, and all are often swept by squalls from the surrounding hills. None of the harbours are ever blocked by ice.

Christmas Harbour, which is the best known port of refuge, has good anchorage in sand, but is very liable to dangerous squalls. Cumberland Bay is a safer harbour, but is not sounded. There are several good harbours in Rhodes Bay and Whale Bay. Gazelle Basin is probably the best harbour in Kerguelen. Royal Sound has many good harbours, including Port Jeanne d'Arc, the entrance to which, however, is difficult. On the south coast, Swains Bay is said to afford sheltered anchorage. The west coast bays are less known and are comparatively few in number. Those which are wide and relatively open are safer than those which are apparently very well sheltered by high cliffs, for the latter are particularly subject to violent squalls.

Several harbours might be greatly improved by the removal of rocks and the fixing of mooring buoys. The Kerguelen Whaling Company maintain a light on Murray Island, at the entrance to Royal Sound, when their whalers are at work outside.

(B) INDUSTRY

(1) AGRICULTURE

The soil in most parts is very damp, but the conditions could be improved by drainage. It is thought that radishes, beetroot, and many other vegetables which grow in Iceland and the Falkland Islands might equally well be cultivated here, at least on the sheltered eastern side of the island. Oats have also been grown in small quantities, but only experimentally. The conditions appear to be unsuited to agriculture on any considerable scale.

Peat is plentiful but very sodden, and the climatic conditions make it difficult to dry. It has been suggested that, with the power derived from the waterfalls, the peat might be converted into fuel for the sugar refineries of Réunion and Mauritius. Other industries which have been proposed include the extraction of iodides from kelp, a species of coarse seaweed which is abundant on the north and east coasts, and the export of guano.

There appear to be considerable possibilities for the breeding of sheep on Kerguelen Island. The climate and conditions are very similar to those of the Falkland Islands and Patagonia, where sheep-rearing has been introduced with great success. There is a plentiful supply of good water, and abundant pasture is supplied by the *acaena*, a plant which flourishes in many parts of the island and provides excellent nourishment for sheep. The firm of Bossière, of Havre, started sheep-farming, together with whaling and sealing, in 1908. Twenty sheep from Iceland were deposited on the island in October 1908, and passed the winter without shelter or care, finding nourishment in the open. Their wool grew long and thick. No further information is avail-

able as to the success of this experiment, but it was hoped to establish in due course an export of wool and meat. A few pigs thrive at the whaling station. The pastures are wet and often water-logged, but they could be improved by the cutting of drainage channels.

The fact that the island has no permanent inhabitants, and that the few experiments carried out have been restricted to short periods of time, makes it difficult to estimate the possibilities.

(2) FISHERIES

Kerguelen is one of the last considerable breeding-places of the sea-elephant, which is hunted for its blubber and skin; sea-leopards and other species of the seal are also found in large numbers. The fur seal, which used to be plentiful, is now practically extinct. There are right whales, humpbacks, and finner whales in the surrounding seas; and these shores used to be greatly frequented by whalers, who made marvellous catches, but the stock was reduced by reckless slaughter. Seal-hunting and whaling ceased to be profitable with the ships and methods then employed, and were abandoned for about fifteen years.

By reason of the respite thus gained, the animals multiplied rapidly, and it is alleged that they are again plentiful. Whale-fishing, however, is not nearly so remunerative as it used to be. Marine oils are now less important, on account of the decrease in the use of oil for lighting purposes and the increased use of vegetable and mineral oils; and there was a large decline in the price in the years 1889 to 1900. They are, however, used in the manufacture of jute, for admixture with other oils for lubricating purposes, and for hardening steel.

It is not possible to give any estimate of the value

of these fisheries, as they have only been exploited by occasional vessels of different nationalities. In 1908 a whaling station was established at Port Jeanne d'Arc by the firm of Bossière, but no information is available as to its output. In the same year Captain Daste, on a private expedition with sixteen men, only half of whom were engaged in hunting, killed in two months 2,249 sea-elephants, which yielded 150,000 kilogrammes (147 tons) of oil. As regards whaling, in 1905 the ship *Josephine*, of 385 tons, brought back from her last two cruises 1,800 barrels of oil and 400,000 francs (£16,000) worth of whalebone. In 1909 some Norwegians, who had contracted for part of the island, brought back in their last cruise 1,800 tons of oil, value about 900,000 francs (£36,000).

The French themselves have made very little use of the fisheries of Kerguelen, which have mainly been exploited by other nations. Recently, however, a society has been formed called the *Pêcheries de Kerguelen*, which has sole rights over one-third of the coast of the island. The society is very anxious for the revival of the bounty which used to be given to whalers at the rate of 70 francs per ton of tonnage, up to a maximum of 600 tons. It is evident that, as whalers in those days were simple sailing schooners and are now large and powerful steamers, the maximum should not remain the same if the bounty were restored. The future success of the fisheries undoubtedly depends upon Government encouragement. It would be an advantage to the industry if the customs duty on marine oils coming from the French colonies, which is 4 francs per 100 kilos, as compared with 8 francs on those coming from foreign countries, were abolished altogether.

It has been suggested that an export trade in salt fish might be established.

(3) MINERALS

Few minerals have been found in Kerguelen, and it is unlikely, owing to the geological formation of the island, that further exploration will reveal more. At several places on the north and east coasts a poor form of lignite has been discovered in seams varying in thickness from a few inches to 4 ft. The best deposits are in Breakwater Bay, Cumberland Bay, and Sandy Cove, at the entrance to Gazelle Basin. An analysis gives 48 per cent. carbon, 35 per cent. volatile matter, and 17 per cent. ash. In another sample the percentage of carbon was only 23, and that of ash as much as 34. A British company in 1877 proposed to begin to mine the coal in Breakwater Bay, but the scheme came to nothing. Though it is unlikely that valuable coal exists in the island, the question deserves careful examination, as the situation of Kerguelen makes it a possible port of call, at which a coal depot would be of importance.

Traces of oil and pitch springs have been reported, but the reports have never been confirmed.

Nickel ore has also been reported. Agates are common.

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MAPS

A map of Kerguelen Island (G.S.G.S., No. 2899), on the scale of 2·2 inches to 10 miles, has been issued by the War Office (December, 1918) in connexion with this series. It is transferred from Admiralty Chart No. 2398.

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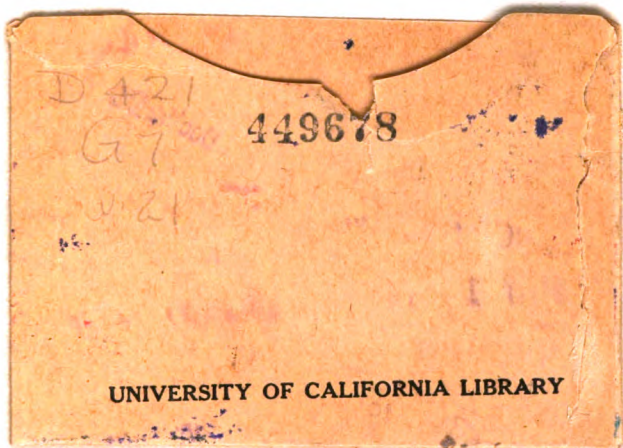
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